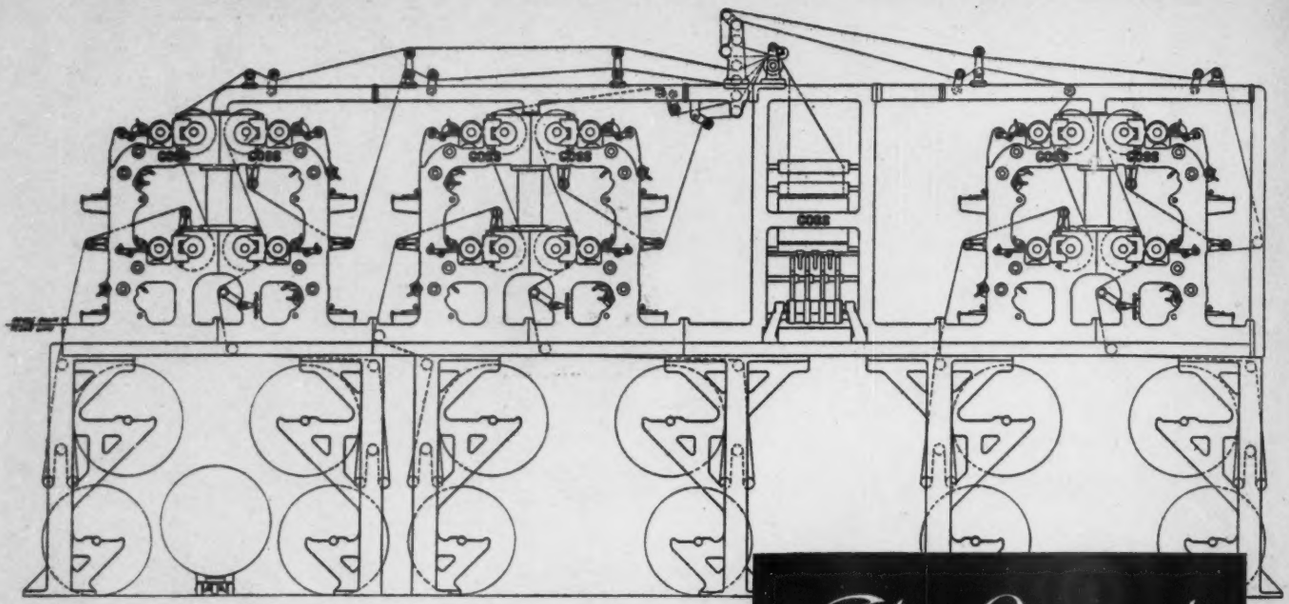
PRINTING EQUIPMENT ENGINEER

1935
EQUIPMENT & SUPPLIES
CATALOG
NUMBER
NOVEMBER 1934

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELDS



GOSS ENGINEERING

The Original UNITUBE PRESS

NOW PROVIDES BETTER PRINTING AT HIGHER SPEED—MORE FLEXIBILITY—LOWER COSTS FOR MEDIUM-SIZED NEWSPAPERS

● Recognized as the most advanced tubular plate press, the Goss UNITUBE takes its place between the Cox-O-Type and the High Speed Anti-Friction Press to raise the curtain on a new day in printing for newspapers up to 50,000 circulation.

Quality printing — substantial power economy — smooth delivery — and accurate count are assured at running speeds of 36,000 to 40,000 complete papers per hour. Such sustained speed in a tubular type press is only possible with the tension lock stereotype plate — an exclusive feature of the Goss UNITUBE Press! Disappearing plate clamps and margin bars are eliminated — no chance for plates to lift or creep. Lockup is quick and positive.

The Goss UNITUBE Press is more accessible, flexible, and variable to color combinations than any press of its kind. Three colors can be run on one unit! Further flexibility is provided by the unique design which incorporates four complete printing couples in each unit. Half units for 12 and 20-page machines can be installed at any time without alterations to the press frames or changes in the drive arrangement. The design of this press also permits shorter web leads.

Traditional Goss features . . . anti-friction bearings throughout — dynamic balance of all rapidly moving parts — form roller throw-off — patented high speed cam type folder . . . are built-in advantages of the UNITUBE PRESS.

Perfect, uniform printing results are insured by the exclusive inking system which gives approximately 50 per cent more ink distribution than any tubular plate press in operation today.

More than a half-century of engineering experience has been drawn upon in designing the Goss UNITUBE Press. It merits investigation; invites comparison. Write for full facts and data now!

GOSS

THE GOSS PRINTING PRESS COMPANY

CHICAGO, U.S.A. New York: 220 East Forty-Second Street • San Francisco: 707 Call Building • The Goss Printing Press Company of England, Ltd., London

REVERSE DELIVERY

ANOTHER EXCLUSIVE PATENTED FEATURE OF THE GOSS HIGH-SPEED ANTI-FRICTION PRESS

50,000-60,000 complete newspapers per hour — neatly folded — uniformly spaced — accurately counted — and quickly delivered *folded edge forward* . . . that's Goss Reverse Delivery!

Light or heavy products are laid down smoothly and evenly, without intricate adjustments . . . no side pans are needed . . . no dog-eared copies . . . no waste time or lost motion in the mail room.

A continuous stream of perfect papers is assured by the new Goss folder, with improved kicker arrangement. Choking of delivery is impossible, because an automatic release is provided, and a shearing pin on the main drive shaft prevents accidental breaking of parts.

Only Goss offers these features — only the High Speed Anti-Friction Press provides such smooth, trouble-free, long-lived performance! Investigate — check the advantages of design and the economies of operation — write the Goss Engineering Department for full technical data and specifications at once.

GOSS

THE GOSS PRINTING PRESS COMPANY
CHICAGO, U. S. A.

New York - - - 220 East Forty-Second Street
San Francisco - - - - - - - 707 Call Building
The Goss Printing Press Co. of England, Ltd., London

It gets Business IN because it gets Business OUT . . . *Economically*

SALES . . . Sales . . . Sales! That has been the war-cry of every printer and publisher for the past several years. Equipment demands have been pigeon-holed . . . *until Sales pick-up*. Time-wasting makeshifts in production have been encouraged . . . *until sales pick-up*.

But sales are never going to pick up in a plant that has become permanently addicted to time-wasting methods!

Ordinarily, plate-mounting equipment is discussed only in terms of production. But today, we believe, it is opportune to consider it from the *Sales* viewpoint as well.

Those hours of make-up, register and make-ready time which efficient base equipment saves will *get* many a job that would otherwise be lost. Adequate and efficient base equipment gets business *in* because it gets business *out . . . economically*.

We urge every superintendent and foreman to make sure that the "big boss" fully appreciates this fact.

An unprejudiced comparison of plate-mounting systems will prove the superiority of the Blatchford Base. We will be glad to give you further details or estimates covering current Base requirements.

E. W. BLATCHFORD COMPANY, 63 Park Row, NEW YORK
NATIONAL LEAD COMPANY, 900 West 18th St., CHICAGO

Blatchford

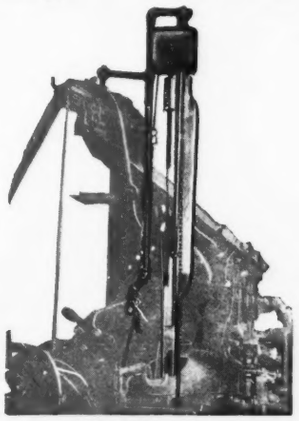
IT'S GUARANTEED FOR 10 YEARS

BASE

MADE BY THE MAKERS OF BLATCHFORD METAL

LOOK! *See what These can do for You!*

"Margach" Metal Feeder



$75.00 each

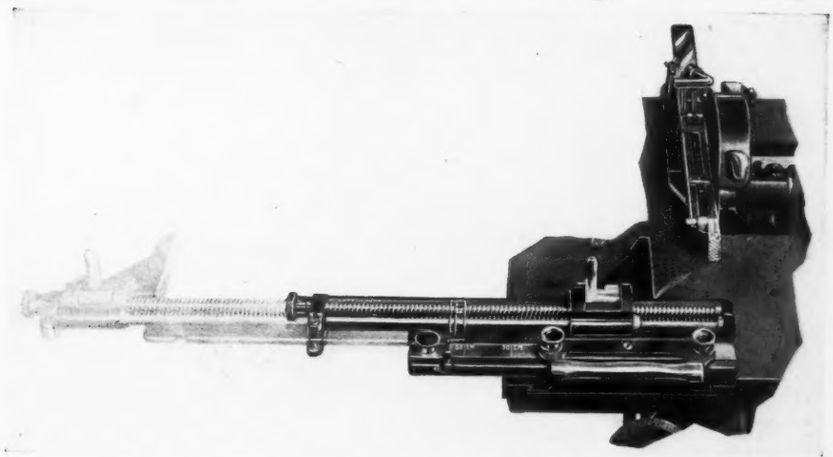
For use on Linotypes, Intertypes, Monotypes, Ludlows, and Elrods. Lowers metal bar into pot just as fast as the melted is being used.

Today over 14,000 Margach Metal Feeders are adding to the profits of their owners by speeding production, saving time and money.

Easily installed. Costs you only $75.00 and is guaranteed for 10 years.

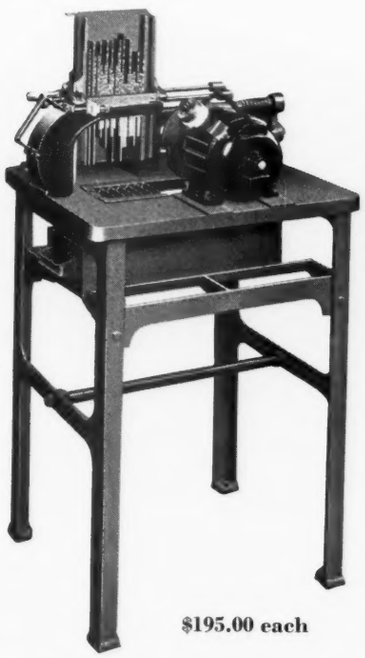
Sales representatives include the Mergenthaler Linotype Co., Intertype Corp., Lanston Monotype Co., and Ludlow Typograph Co.

WHAT YOUR SAW NEEDS · · · Rapid Saw Gauge



Gauge in normal position, showing extensions to 133 ems

Simply apply it as you apply your present swivel gauge. No fitting necessary. The Rapid Gauge is quick and accurate. Will take in measures from 6 points to 133 ems instantly. No need hunting for an extension gauge. Has "micrometer" adjustment to fractions of points. Can easily be applied to any saw besides the Miller, and it is by far the best gauge ever conceived for any composing room saw—$50.00 each.



$195.00 each

The Lino-Slug Router

Routs the shoulders on Linotype slugs so low that all danger of ink reaching them is eliminated. Routs a galley a minute.

Makes spacing material from used Linotype slugs.

Handles as many as thirty 12-pt. slugs at one time — from 4 to 42 picas long. Impossible to injure the face of type.

$35.00 each (For Miller Saws)

Sure-Grip Work Holder

Holds all classes of work absolutely true. *Will allow cutting down to one pica. Eliminates "fanning" of slugs.*

A slight pressure on the lever holds the slugs in a vise, no matter whether a two-point rule or a handful of type. No guesswork whatsoever.

No screws, ratchet or racks to wear out and replace.

Safe, sure and true to its name. Complies with all safety ordinances everywhere. *Guaranteed for five years.* Will probably last forever.

Pays for itself quickly in the time and annoyance it saves you.

MARGACH MANUFACTURING COMPANY, Inc.

213 CENTRE STREET **Herman Diamond, President** **NEW YORK**

AUTHORIZED AGENTS

Mergenthaler Linotype Company ▾ Lanston Monotype Company ▾ Ludlow Typograph Company ▾ American Type Founders Sales Corporation

Packed Dry-Mat is ready for AUTO-FORMER. Operator pressing Motor Starting Button—to bring into action the Vacuum "Forming" Unit.

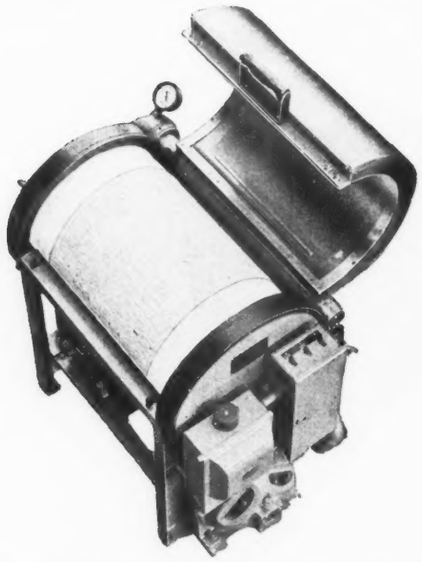
Placing Dry-Mat in Vacuum Chamber —gauges are provided for easy and quick register over Bolster Support Bars and for Sidewise Alignment.

The STAHI AUTOFORMER Signalizes a Brilliant New Chapter in the History of Dry-Mat Routine ... Follow the Red Dots and Note the Simplicity ... Plus Speedy, easy, Automatic Operation.

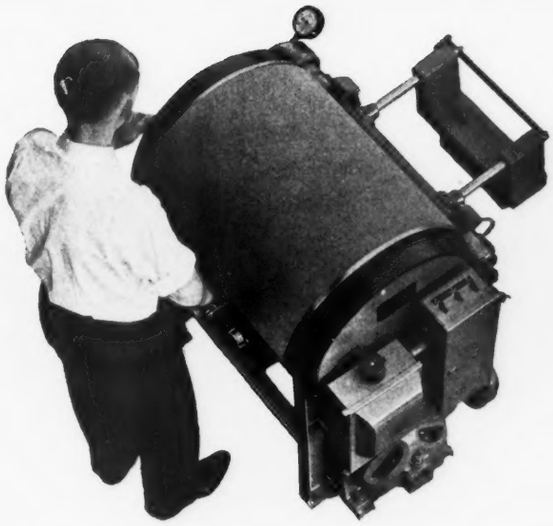
•

STAHI NEWSPAPER SUPPLY COMPANY, INC.
Los Angeles, Calif.—Portland, Ore.

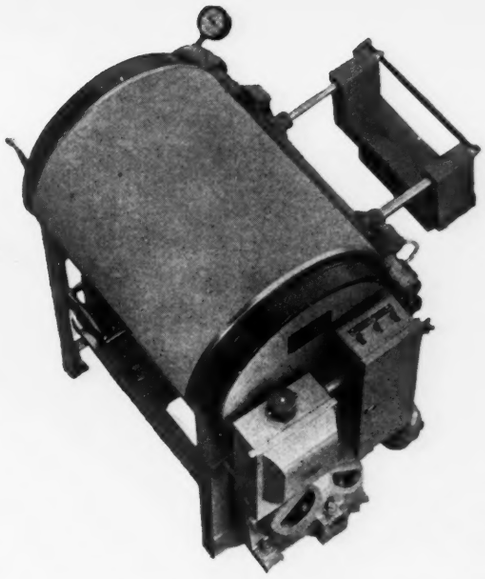
STA-HI



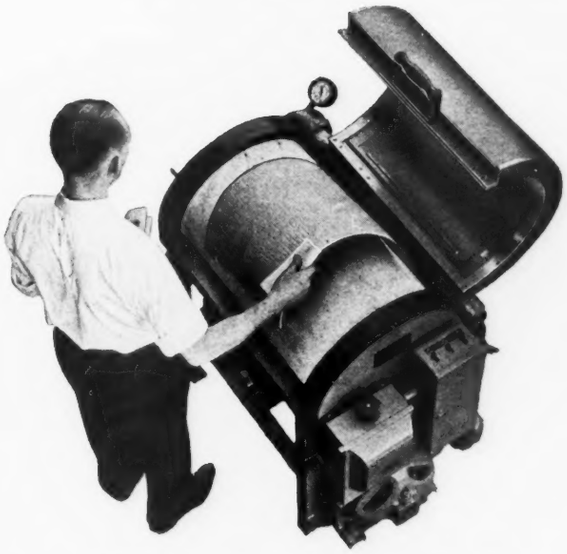
TIME'S UP—The Automatic Electric Timer has acted to close off the Residual Vacuum Supply—Opens the Vacuum Chamber—Stops the Motor —and has left the Dry Mat scorched to Casting Temperature on Base Heater ready for removal.



Closing Vacuum Chamber—Setting Residual Forming Vacuum with left hand—Adjustable for Dry-Mats of any Manufacture or Moisture Content.



The AUTOFORMER needs no further Manual Helps—by its Extraordinary Selectivity, separates out the mixed High and Low Levels, bringing all to One Uniform Casting Level—Automatically.



Removing Dry-Mat directly to Casting Units—"Formed and Scorched" with Uniform Casting Levels in from 50 Seconds to One Minute—Ready to produce Plates with Uniform Printing Levels.

The STAHI AUTOFORMER Offers an Opportunity to Eliminate Economic Waste, Thus Lowering Operating Costs . . . Plus Better Quality Printing. New Standards are Brought to All Users.

AGENCIES

THE GOSS PRINTING PRESS CO., Chicago, Illinois
WOOD FLONG CORPORATION, Hoosick Falls, N. Y.
CERTIFIED DRY MAT CORPORATION
342 Madison Avenue, New York, N. Y.
TORONTO TYPE FOUNDRY CO., Toronto, Canada

●

SOUTH AMERICAN AGENTS

A. M. CARNEIRO & CO., 152 W. 42nd St., New York City, N. Y.

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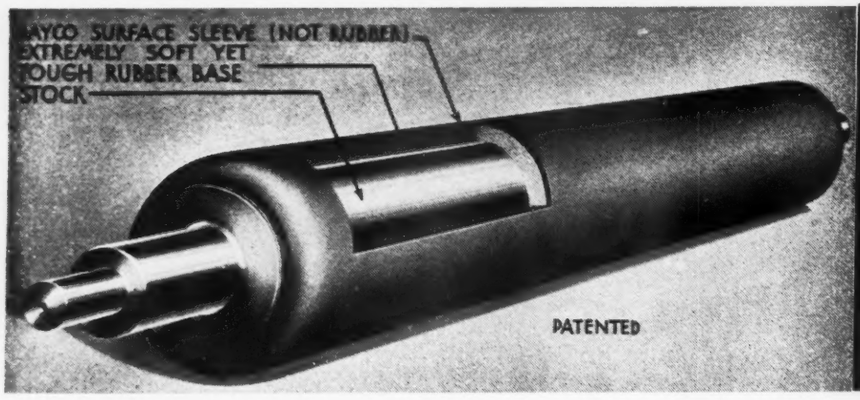
EUROPEAN MANUFACTURERS

THE GOSS PRINTING PRESS COMPANY OF LONDON, ENGLAND



DAYCO
"STAYPUT"
ROLLERS

WHY YOU SHOULD CHANGE TO

DAYCO "STAYPUT" ROLLERS

The Nelson Roller Company, exclusive distributors for Dayco *"STAYPUT"* Rollers for Newspapers, gives you the following excellent reasons for changing to

The Dayton Rubber Manufacturing Company's "STAYPUT" Roller

Dayco *"STAYPUT"* Roller is a successful product. After two years of continued service they are still producing the same high quality printing results as when first installed.

This new type of construction insures a roller which will maintain its accurate circumference. The base is made of the softest rubber composition (not sponge rubber) ever used, and will not deteriorate. The outer cover or sleeve is made of synthetic flexible material that gives a uniform covering at all speeds. These rollers will give you clean, clear, even impressions throughout the entire run. Swelling, shrinking, slurring, unevenness, grinding are eliminated. THEY ARE THE FIRST ROLLERS TO ELIMINATE RESETTING.

The *"STAYPUT"* construction provides a perfect printing surface that will give you the same high quality printing results year after year. We want you to check our claims in actual practice. We feel it is worth your while to try Dayco *"STAYPUT"* Rollers on your presses.

NELSON ROLLER COMPANY

TRIBUNE TOWER - CHICAGO, ILLINOIS

LUDLOW and ELROD

. . . . Two Money-Making and Labor-Saving Composing Room Tools

The Ludlow Typograph Company manufactures and supplies these products to the advantage of the composing room executive:

1 The Ludlow system of Display Composition—The Ludlow—a slug line-casting machine, well designed and simple in operation. Ludlow matrices of popular type faces for display composition. Ludlow matrix cabinets, sticks and other accessories of the Ludlow System.

2 The Elrod lead, slug, rule and base caster—producing the finest quality of continuous strip material, without brittle breaks or welds. The Elrod is generally admitted to cast the best quality of type metal strip material produced in the composing room. Information regarding the Ludlow and the Elrod is available on request without obligation.

LUDLOW TYPOGRAPH COMPANY
2032 CLYBOURN AVENUE · CHICAGO, ILLINOIS

SET IN LUDLOW UMBRA AND TEMPO BOLD

PRINTING INKS FOR EVERY BRANCH OF THE GRAPHIC ARTS

BAG — Burlap, Cotton, Kraft Paper, Enamel Paper, Awnings.

CARTON — Fibre Board, Corrugated Board, Folding Box.

COMMERCIAL — Stationery, Catalogue, Maps, Advertising, Telephone Directory, Poster and Card Signs.

GRAVURE —

LABEL — Soap Wrapper, Gummed.

LITHOGRAPHIC —

METAL DECORATORS (Tin) — Containers Signs, Screw Caps, Crown Caps.

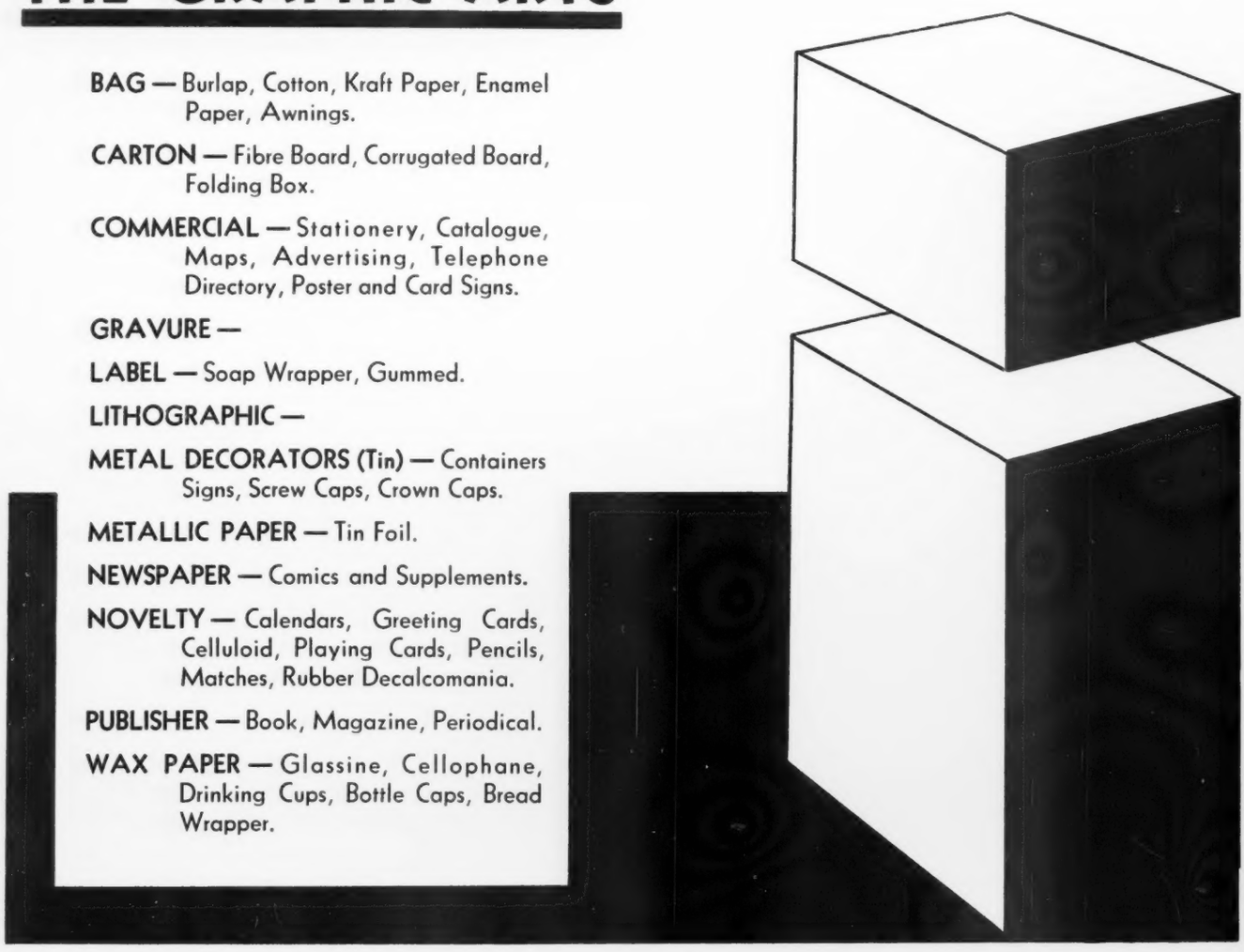
METALLIC PAPER — Tin Foil.

NEWSPAPER — Comics and Supplements.

NOVELTY — Calendars, Greeting Cards, Celluloid, Playing Cards, Pencils, Matches, Rubber Decalcomania.

PUBLISHER — Book, Magazine, Periodical.

WAX PAPER — Glassine, Cellophane, Drinking Cups, Bottle Caps, Bread Wrapper.



A NAME BUILT ON A

BRANCH OFFICES

Atlanta - Baltimore - Battle Creek - Boston - Buffalo
Chicago - Cincinnati
Cleveland - Dallas - Detroit
Kalamazoo - Kansas City
Los Angeles - Milwaukee
Minneapolis - New Orleans
New York City - Philadelphia
Richmond - Rochester
St. Louis - San Francisco

I.P.I. has attained its position in the printing ink industry through the policy of keeping ahead of technical developments and sharing the knowledge thus secured with those engaged in the Graphic Arts.

The Research Laboratories, occupying a seven-story building, in New York, are equipped with every modern laboratory necessity for testing promising developments

THE INTERNATIONAL PRINTING

SOUND POLICY

and for initiating progressive moves.

I.P.I. has just completed a year's study of the subject of color, the results of which are shortly to be released.

It is at present engaged in a new approach to process printing which may have far reaching results.

I.P.I.'s contribution in the field of comic and web press inks is acknowledged in the industry but The Research Laboratories are continuously seeking improvement.

It has anticipated and met the needs of gravure printing throughout the development of this process.

It is this type of service which makes I.P.I. the logical source of help in solving any of your ink problems. A competent service man is available at each of the conveniently located branch offices.

INK CORPORATION • NEW YORK

DURING the month of September, *The New York Times*, using 24 Autopasters, automatically spliced 6,273 rolls of paper with a percentage of $99\frac{2}{10}$ per cent of perfect splices made at full speed.

WOOD NEWSPAPER MACHINERY CORPORATION
MAKERS OF FINE NEWSPAPER MACHINERY
501 Fifth Avenue, New York

Originators of

Automatic Stereotyping *Modern Fast Newspaper Printing* *Automatic Web Splicing*

PRECISION LOCK-UP MEANS GOOD PRINTING AT A PROFIT!

WARNOCK 4"x4" MALLEABLE IRON BLOCKS

Profitable Printing starts with speedy . . . low cost . . . and efficient plate mounting. And this means genuine PMC Warnock 4"x4" Malleable Iron Blocks . . . with their remarkable strength . . . heavy lips . . . husky corners . . . freedom from warping and springing—thus assuring faithful service and perfect register. « «

Write for literature describing the Warnock Malleable Iron Diagonal Block and Register Hook System — and what it means to you. « « « « « «

"WARNOCK" 4 by 4 METAL BLOCKS

PMC PRECISION METAL BASES

"STERLING" TOGGLE BASES

THE PRINTING MACHINERY COMPANY

436 COMMERCIAL SQUARE · · · · · CINCINNATI, OHIO

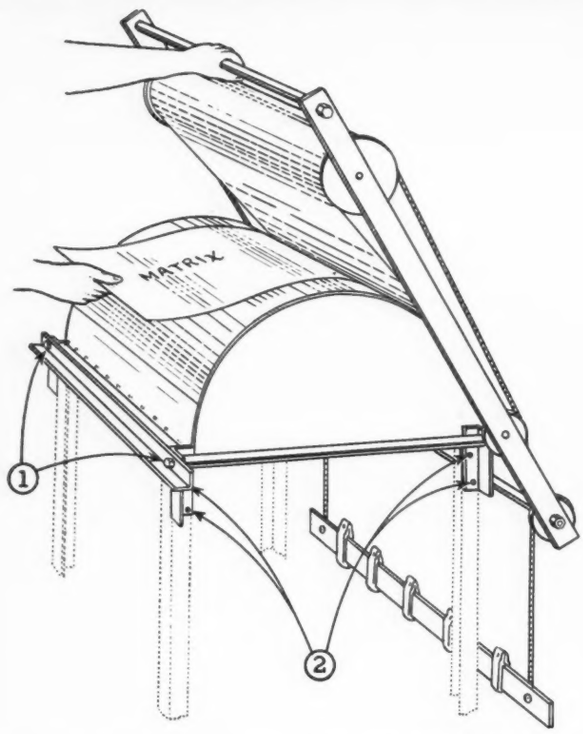
461 Eighth Ave. New York, N. Y.

Canada: Toronto Type Foundry Co., Ltd., Toronto
Australia: Carmichael & Company, Sidney

NRA WE DO OUR PART

England: Wm. J. Light & Co., London
Italy: D. G. Vianini & Company, Milan

20 West Jackson Blvd. Chicago, Illinois



FORM-O-SCORCH

Self-Conforming Cover, with Adjustable Tension for Speed Covers

Renovate and Remodel your Old Scorcher Economically with this attachment.

Easy to install: Remove old covers. Then, loosen nuts marked "1" on diagram, place attachment over drum and tighten nuts. Secure firmly to frame by screws marked "2."

***Complete Attachment* . $45.00**

The Scorch-Rite Timer

This device may be used in conjunction with any scorcher. It is plugged into the wall and screwed to the floor. Eliminates burned and underscorched mats by insuring a uniform timing period. The signal light is on only when timing a mat.

***Price* $15.00**

STEREOTYPE ROOM SUPPLIES

Scorchers of every description
Packing Felts
- Gummed
- Plain
- Prepared

Cut Mounting Tissue
Nails and Tacks
Electrotypers' Rubbers
Wool Molders
Red Dryers
Rubber Molders
Phototone Creepers
Creeper Felts
Molding Boards
Matrix Shears
"Smatco" Mat Rolling Machine
Mallets
- Rubber
- Rawhide
- Hickory

Waxed Overlays for Molding Halftones
Stereotype Tissue and Blotter
Cork Molders
Flat Shaver Boards
Tail Boards (Flat and Curved)
Chisels
Jig Saws
Planer Blocks
Stereotype Chemicals
Routers and Bits
Brushes (all kinds)
Gummed Sealing Tape
Blue Dryers
Packing Felt Moisteners
Paste (Liquid and Dry; all kinds)
Remoistening Gum

SCORCHER SUPPLIES

Asbestos Cloth for Scorcher Covers
- Plain and Wire Woven
- Asbestos Paper
- Asbestos Thread

Heating Units (all kinds)
Switches (all kinds)
Heat Resisting Wire
Scorchrite Timers

COMPOSING ROOM

Keyboard Rollers
- Plain
- Corrugated

Knives Resharpened
Sennet Positive Assembler
Can Wires
Steel Work Benches (all sizes)
Marvel Dust Blowers
Belting (all kinds)
- Router Belts
- Distributor Belts
- Assembler Belts
- Mat Delivery Belts
- Pi-stacker
- Keyboard
- Round Leather
- Endless and Clippered
- Miehle Belts
- Belt Hooks

Proof Press Ink
Linotype Parts

PRESS ROOM SUPPLIES

Press Blankets
Draw Sheets
Bumping Pads
Blanket Punches
Press Tape
Ink Pumps
Cutting Rubbers
Paste

AUTO PLATE ACCESSORIES

Steel Pouring Sheets
- Junior Autoplate
- Automatic Autoplate
- Tubular

Breaking Pins
Renew Pins
Shaver Belts
Autoplate Belts

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS

FORM-O-SCORCH

For Semi-Cylindrical Work

Three Turtleback Models

offering

Outside Removable Heating Units

Selective Heat Control

Self Conforming Curtain Cover

Adjustable Forming Tension

Automatic Timer

•

EFFICIENTLY SIMPLE—SIMPLY EFFICIENT!

For Flat Work

Guaranteed uniform heat. Form-O-Scorch quality throughout. Lowest priced and most ruggedly constructed scorcher on the market.

For Tubular Work

The centrifugal Form-O-Scorch. A new departure from the old method of forming and scorching. Especially adapted for tubular equipped plants.

For Special Work

For bag mfrs., label, law blank, or sales book mfgrs., using special curvatures and odd size plates, we design special machines to meet the exact requirements.

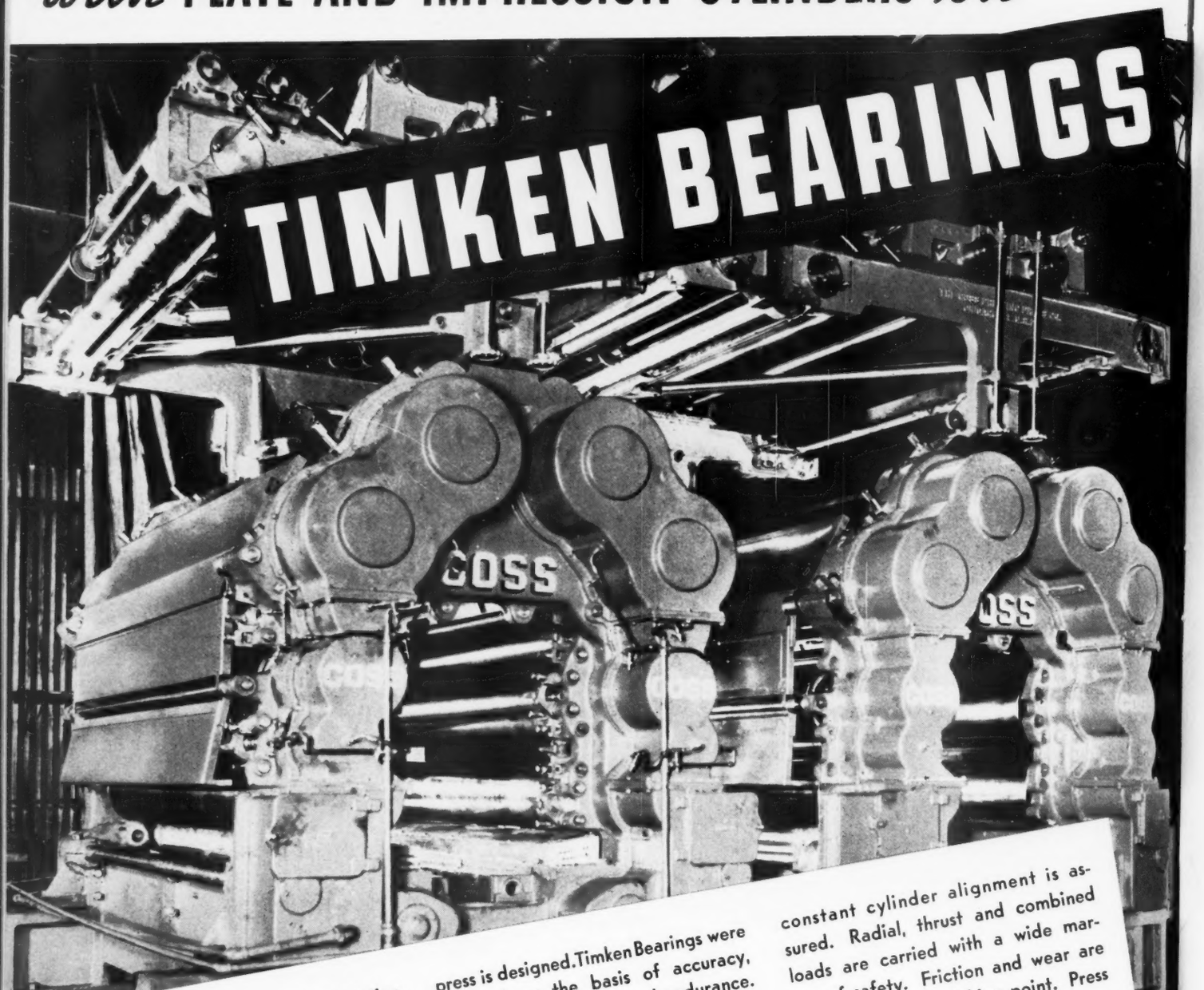
"The Scorcher Specialists of the Trade"

AMERICAN PUBLISHERS SUPPLY

BOX 131 ▾ WEST LYNN, MASS.

50,000 *to* 60,000 NEWSPAPERS AN HOUR

with PLATE AND IMPRESSION CYLINDERS *on*



THE Goss High Speed Anti-Friction Press built for the Chicago Tribune is the modern answer to the demand for higher productive speeds and better quality presswork in newspaper printing. Timken Tapered Roller Bearings are used on all plate and impression cylinder shafts of all 34 units. The Goss Printing Press Company regards this as one of the most important factors in attaining and maintaining the phenomenal speeds for which the press is designed. Timken Bearings were selected on the basis of accuracy, operating smoothness and endurance. They are of the same precision type as those used to meet tolerances as close as 1/10,000 of an inch on the spindles of modern heavy duty machine tools. No bearing less accurate could meet the exacting requirements of this revolutionary printing press. Shaft play, vibration and cylinder jumping are eliminated. Correct and constant cylinder alignment is assured. Radial, thrust and combined loads are carried with a wide margin of safety. Friction and wear are reduced to the vanishing point. Press dependability and life are correspondingly extended.

You need this modern advancement in the printing equipment you manufacture or buy. It will pay you to see that you get it.

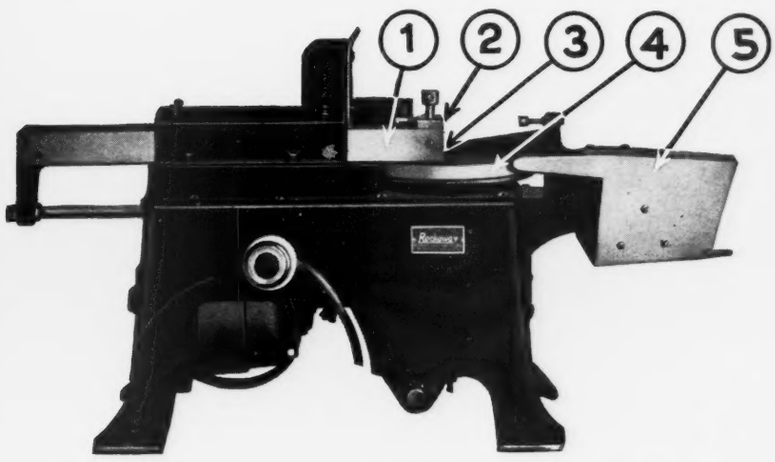
THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Tapered Roller TIMKEN BEARING EQUIPPED

TIMKEN *Tapered Roller* **BEARINGS**

Here's the new model
ROCKAWAY AUTOMATIC SPACEBAND CLEANER

With 5 Big Improvements



1. Two feed bars of equal length to which plunger housing is bolted, giving necessary rigidity.

2. Square plunger housing bolted to both feed bars, adding strength and rigidity. Housing spring exerts 30 lbs. downward pressure on spaceband instead of 7 lbs. as formerly. More thorough cleaning and polishing, less chance of adherent metal. Added pressure tends to keep bands true.

3. On old model, when placing band in machine with sleeve up, it was apt to jam under guide finger, stalling machine, often damaging internal mechanism. In new model, band can be placed in machine sleeve up or down, without stalling or jamming machine.

4. Old model required a guard to guide band over polishing disc. This guard became undercut and allowed bands to jam. New model requires no guard. Extended feed bar serves the purpose and causes no trouble as above.

5. Assembling Box. Every band as cleaned is automatically deposited in our new-type assembly box, every band sleeve down. By opening side on bottom, bands drop into the hand, ready for insertion into the type-setting machine without further inspection.

What Users Say

Pays for Itself

Freeport, Ill., Journal-Standard May 26, 1934, says:

Thus far we are more than pleased. The Rockaway Spaceband Cleaner not only does the work very well but it has resulted in our being able to use the operators each 15 minutes longer in type setting daily—which in our plant means at least a galley and a half more of type. This increased output will mean that the cleaner will pay for itself in a few months.

Saves Labor

Rockford Morning Star
Rockford Register-Republic

June 18, 1934, writes:

It may be of interest to you to know how satisfied we are with the Rockaway Spaceband Cleaner which you installed for us in our composing room several weeks ago. The men in charge of our mechanical department advised me that this equipment not only actually saves considerable labor but they find a decided improvement in the spacebands themselves through this method of cleaning. We would have no hesitancy whatever in recommending this equipment.

APPROVED BY LEADING MECHANICAL AND PRODUCTION EXECUTIVES

THE new Model Rockaway Automatic Spaceband Cleaner with the five big improvements given above has met the approval of leading mechanical executives wherever shown. They declare it the finest spaceband cleaning equipment that money can buy. They say it saves money, time, and materials and turns out first-class work. The Rockaway economy appeals to them—it can be run off lighting systems at an average cost of one cent an hour.

The purchase of a Rockaway by any plant operating Linotype or Intertype machines is an investment that soon pays for itself. Every machine is guaranteed to do the work as represented. Machines for foreign shipments are protected against salt water damp, properly boxed and prepared to conform with all foreign shipping regulations. Write for complete information including prices.

A Few of the Hundreds of Newspapers Using Rockaway Equipment

Chicago American
Cuneo Press
Newark, N. J., Star Eagle
Louisville Herald Post
Pathfinder Magazine
New Orleans Times Picayune
Elizabeth, N. J., Journal
Toronto Star
Seattle Times
Asheville, N. C., Citizen
Buffalo Times
Portland Oregonian
Philadelphia Bulletin
Wisconsin Sentinel-News
Duluth Herald News-Tribune
Birmingham News
Minneapolis & St. Paul
Tribune Journal, Star
News & Pioneer Press
Salt Lake City Telegram
Kansas City Journal-Post
Albany Knickerbocker Press
Washington, D. C., Star
Buffalo Courier-Express

Foreign Countries

2 in Holland
4 in New Zealand
12 in England
2 in Scotland
2 in Australia

THE ROCKAWAY COMPANY

5409 VLIET STREET **MILWAUKEE, WISCONSIN, U.S.A.**

THE KOHLER PASTER
AND WEB CONTROL

HAVE PROVED:

SIMPLE The press driven web control belts bring the fresh rolls to web speed. No special equipment is needed for this purpose, and there are no sudden changes in tension or web stress at any time during the operation.

There is no necessity for any timing equipment, or involved control system.

No special dexterity on the part of the operator is necessary.

Turning the reel is all that is required to make the paster. There is only *one* additional button to push.

UNIQUE There are no definite barriers to high operating speeds. Pasters are made with equal facility at all speeds from threading up to 30,000 per hour, with no compensating adjustments whatsoever.

EFFICIENT Eight Kohler Pasters in daily operation in three modern plants have averaged from 95.9% to 99.08%. Each of these machines make from 150 to over 200 pasters per month.

PRACTICAL The installation of Kohler Reels, Web Controls, and Pasters in the plant of the Los Angeles Shopping News increased press room production over 40%. In addition, substantial savings in white and printed waste have been realized.

Let us furnish you installation and performance data.

KOHLER BROTHERS
ENGINEERS AND MANUFACTURERS

CHICAGO **NEW YORK** **SAN FRANCISCO**

MILWAUKEE SAW TRIMMER CORPORATION

SUCCESSORS TO CHESHIRE & GREENFIELD MANUFACTURING CO.

612 E. CLYBOURN ST. • MILWAUKEE, WISCONSIN

MANUFACTURERS

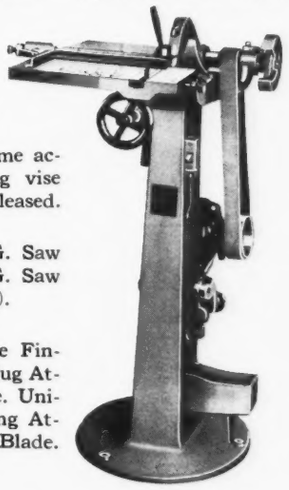
C & G

COMPOSING ROOM EQUIPMENT

● Now, more than ever, you need C. & G. machines for speed in production, safety in operation, with their resulting economy.

● Sold by leading typefounders and dealers. C. & G. machines have become standard equipment in modern plants everywhere.

C & G SAW TRIMMERS—SAW, TRIM and MITER



The Acme of Saw Trimmer Value.

Safe against even careless operation. Fast because efficient. Adjustable point gauge assures extreme accuracy. A positive acting vise holds work securely until released.

MODELS — No. 1 C. & G. Saw Trimmer. No. 2 C. & G. Saw Trimmer (as pictured here).

ATTACHMENTS — Type Finishing Attachment. Low Slug Attachment. 150 Pica Gauge. Universal Saw Blade. Grinding Attachment for Universal Saw Blade. Trimmer Knife Grinder.

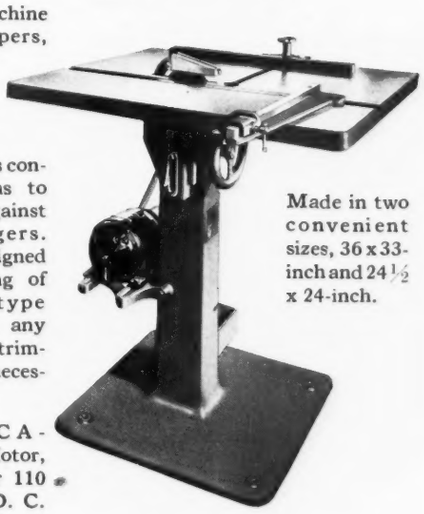
SPECIFICATIONS — *Model No. 1.* Table can be raised above head for rough sawing. Table size, 10⅜ x 16⅛ inches, 60 pica gauge, 6-inch saw blade assembly, miter vise and miter gauge.

Model No. 2. Table elevates above saw for undercutting. Table size, 23 x 20½ inches, 60 pica gauge, subtable, extension table, miter vise and miter gauge.

Motor, ¼ h.p., 110-220 volt, D.C. or A.C., 60 cycle, 1 phase with 10-foot cord and plug if wired for 110 volts.

C & G STEREOTYPE SAW

Just the machine for electrotypers, paper box makers, and newspaper publishers.



Made in two convenient sizes, 36 x 33-inch and 24½ x 24-inch.

Saw guard is constructed so as to make it safe against careless fingers. Very well designed for the sawing of cuts, stereotype casts, in fact any sawing where trimming is unnecessary.

SPECIFICATIONS — Motor, ½ h.p., either 110 or 220 volt, D. C. or A. C., 1 phase, 60 cycle.

C & G ROUTER, JIGSAW and TYPE-HIGH MACHINE

Eliminates the necessity of sending out cuts for changes

This is a double purpose machine. Two men can work at one time doing two separate jobs.

Planes cuts to exact type-high, routs high spots, drills, mortises inside and out, cuts unusual shapes, circles and ovals. Changing key numbers becomes a simple job.

Trade plants, newspapers, engravers, electrotypers, commercial and private plants, prefer this machine due to its simplicity of operation, and the wide range of work it does well.

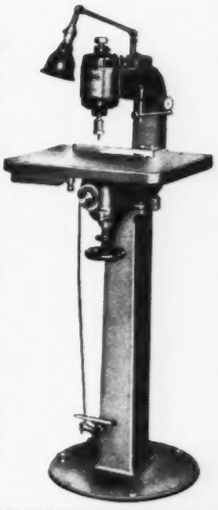
ATTACHMENTS — Circle Cutting Attachment. Ellipse Cutting Attachment.

SPECIFICATIONS — Router end of machine, ¼ h.p., 14,000 r.p.m., Universal Motor, 110 or 220 volts. Jigsaw end of machine, ¼ h.p., 110 or 220 volts, D.C. or A.C., 60 cycle, 1 phase, 10-foot cord and plug if wired for 110 volts.

These machines are equipped with a substantial, adjustable lighting fixture, which assures a volume of light for all work.

There are no belts to change.

C & G TYPEHI and ROUTER



A compact machine with many uses where jigsawing is not required.

Planes cuts to exact printing height, routs high spots, and drills. Tint blocks, circles, ovals and unusual shapes can be quickly made.

ATTACHMENTS — Circle Cutting Attachment. Ellipse Cutting Attachment.

SPECIFICATIONS — ¼ h.p. Universal Motor, 110 or 220 volts, 10-foot cord and plug if wired for 110 volts.

These machines are equipped with a substantial, adjustable lighting fixture, which assures a volume of light for all work.

• The Tools of an Efficient Composing Room

● *write for catalog with complete information*

LARGEST CANADIAN PAPER *again specifies* "100% GOODRICH ROLLERS"

WHEN The Toronto Star recently installed new Hoe Presses they did not have to gamble on rollers. They specified Goodrich—the same rubber rollers which for the past six years have contributed so much to the efficient, uninterrupted operation of many of their other presses.

It isn't just coincidence that many great newspapers in North and South America have adapted the same buying formula.

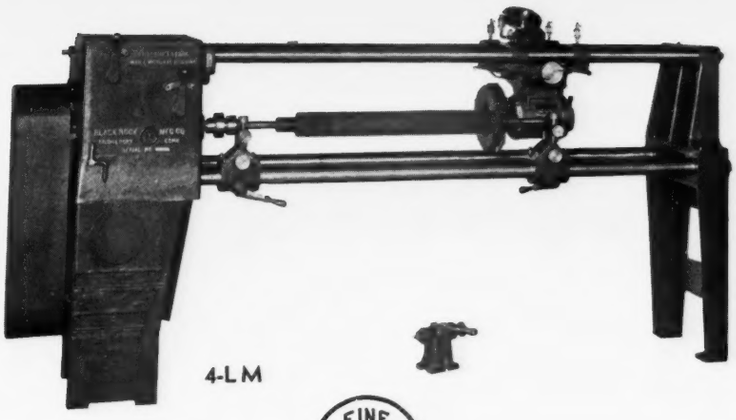
Goodrich Printers' Rollers speed up production and yield clearer, sharper printing throughout the run. Free from temperature distortion these rollers will function for years before regrinding becomes necessary. They do not pit nor swell at the ends but remain uniform, save time and money by avoiding shutdowns for resetting or washups.

Goodrich Printers' Rollers can speed up your production also. They can improve your paper's appearance as they have improved others. Write for actual performance data on Goodrich Rollers and judge for yourself what they would accomplish in your case. Just write . . .

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

The 4-LM Grinding Machine is grinding small rollers in commercial, magazine, and private printing plants. Equipped for grinding the work on either journal or its center. Has infinitely variable work-speed control and six grinding feeds. Ruggedly constructed and easy to operate. Capacity of ½-inch to 8 inches in diameter for a length of 48 inches. Occupies a floor space of 2 feet 10 inches by 8 feet 10 inches. Maximum height, 5 feet. H. P. consumed, about 2¾.



4-LM

As a companion to the 4-LM Grinders we have a polishing machine, 4-RM, for smaller rubber rollers coming within the capacity of this machine.

FINE BR TOOLS

USE BLACK ROCK *EQUIPMENT*
FOR ACCURATELY GRINDING AND POLISHING ROLLERS

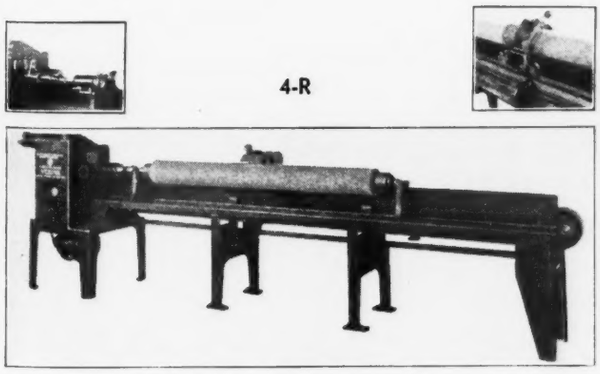
HAS your plant considered the economy of an installation of Black Rock Roller Grinding and Polishing Equipment?

The Black Rock equipment shown on this page is the finest grinding and polishing equipment obtainable. Each piece has been tested under the most severe conditions on all types of rollers. Write today, telling us your requirements and let us determine whether Black Rock Equipment can save money in your plant.

4-LG

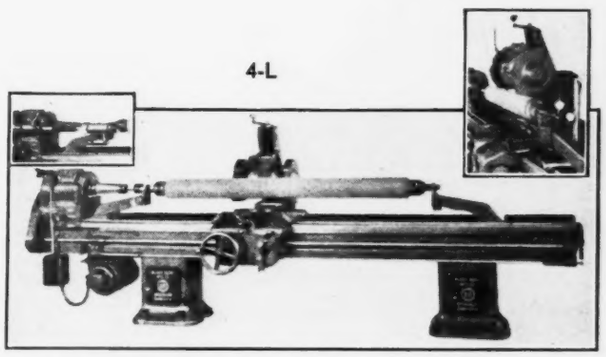
This Goodrich one set roller gauge, 4-LG, eliminates the individual "feel" and insures correct reading for straight or crowned rollers at all times and by different persons. Capacity, 2 inches to 8 inches, inclusive. Especially calibrated for rubber rollers. The dial is graduated to .001-inch.

BLACK ROCK MFG. CO.
177 OSBORNE ST. BRIDGEPORT, CONN.



4-R

The 4-R Roller Polisher, above, is designed to rapidly and accurately polish rubber rollers coming within specifications given by leading press makers. It eliminates the laborious, inaccurate hand polishing and maintains dimensions relative to those produced on our grinder. Capacity of 2 to 8 inches diameter and length between bearings from 0 to 9 feet 7 inches. Consumes about 2 h.p. Floor space, 2 feet 6 inches by 14 feet. Maximum height, 4 feet 4 inches.



4-L

This 4-L Grinder is used by many leading newspapers handling rollers specified for leading presses, including gravure and lithograph rollers. Roller ground at any point from top to back permitting user to grind straight or with crown due to natural sag. Capacity of 3 to 12-inch diameter and a length from 1 to 9 feet between roller bearings. Consumes 4 h.p. Occupies a floor space of 4 feet by 13 feet 8 inches. Maximum height, 5 feet 4 inches. Sturdily built — does accurate clean-cut work.

ANNOUNCING

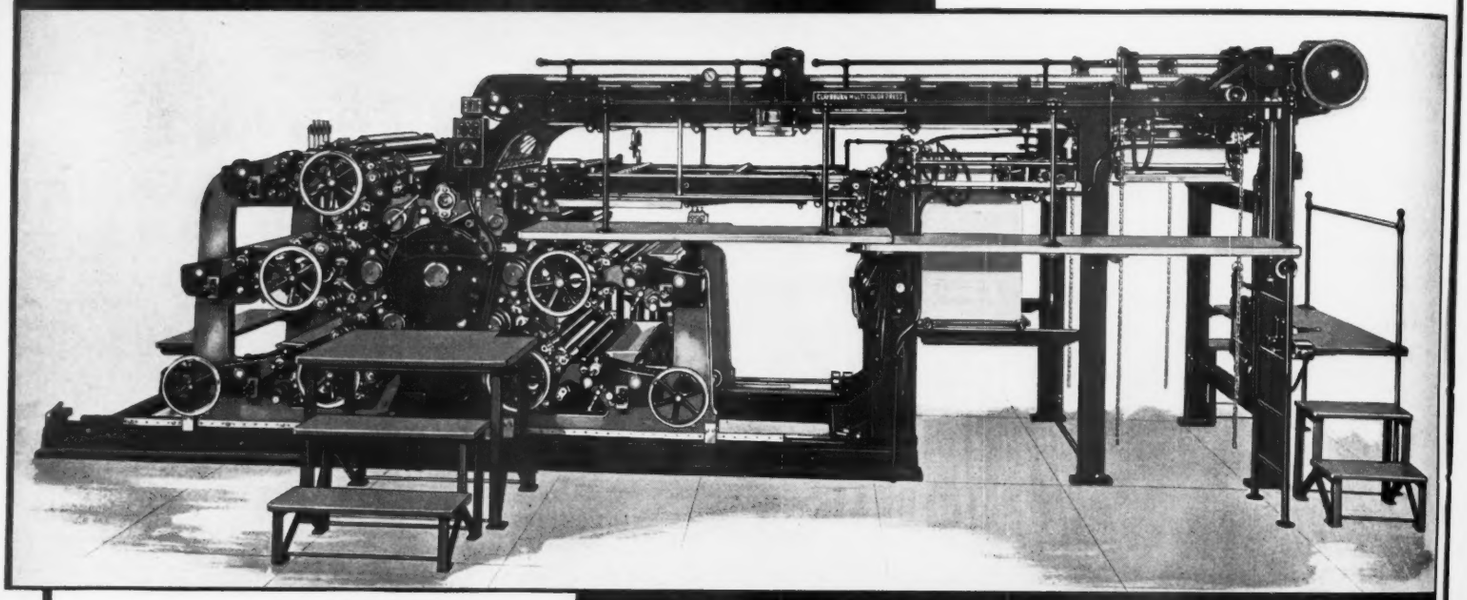
A ONE COLOR, TWO COLOR, THREE COLOR, FOUR COLOR, FIVE COLOR PRINTING PRESS ALL IN ONE

The accessibility and new mechanical features built into this press will immediately convince you of its merits.

Each of the features listed below is of great importance in the application of modernization to letterpress methods.

Write for sample printed sheet or arrange to see a demonstration.

A PRINTING PRESS WITHOUT AN EQUAL



Many New Features Used Exclusively on Claybourn Presses

1. Five color printing unit. Automatic feeder and delivery.
2. Extra heavy sideframes and base to assure accuracy.
3. Feeder automatically trips cylinder and ductor roller.
4. New accelerator and sheet control for speed.
5. Claybourn spirally grooved precision plate cylinders.
6. Claybourn rapid register hook system.
7. Positive automatic trip mechanism.
8. Inker roll-back and quick action lock-up.
9. Automatic ink roller throw-off and color control.
10. Quick action fountain feed adjustment.
11. Roller sockets with replaceable liner bearings.
12. All ink rollers interchangeable.
13. Balanced roller stocks of swaged steel tubing.
14. Inkers operate in open position with power.
15. Large oversize tympan cylinder journals and bearings.
16. Helical main drive and cylinder gears.
17. Silent chain motor drive and push button control.
18. Micrometrically graduated cylinders for register system.
19. Feeder pile positioned micrometrically.
20. All joggers set to exact predetermined position.

Modernization of the printing press called for decided, dependable mechanical improvements and demanded ease, speed and accuracy of adjustment to eliminate laborious time-consuming uncertainties. These new features were developed to answer this call.

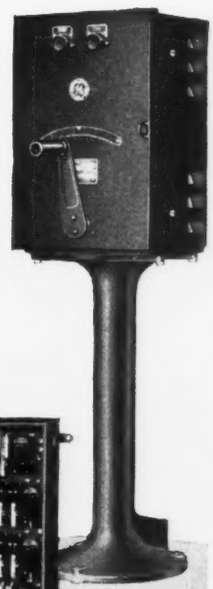
THE NEW CLAYBOURN 25x38 5 COLOR ROTARY PRESS

Built over-size to take a sheet 28" x 42". Minimum sheet size 15" x 19".
Length 29'. Height 9'4". Width 12'. Weight 28 tons.

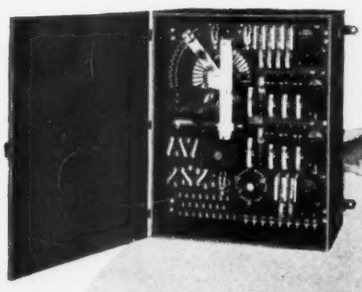
A multi-color press — Built to meet the requirements of the average printer in both size and price range .... Economical for short runs as well as large edition work. Claybourn perfected non-stretch curved plates, practically eliminating makeready, and our method of predetermining line-up and register mechanically, make possible the use of our rotary presses for moderately short runs. Inspection of finished product made possible at all times during production. Perfect register positively assured. No time for paper to stretch or shrink between operations. Press is started faster. Runs as many as five colors at a speed of 4000 or more sheets per hour. Write us for full details of new features on this unit, which has attracted nation-wide attention.

Claybourn Corporation, Milwaukee

THE RIGHT CONTROLLER
for Every Type of Printing Press



G-E pedestal-type preset-speed controller for job presses, folders, and wire stitchers



G-E remote-operated preset-speed controller and master switch. This new type of controller supplies remote preset-speed selection from a master switch on the press. It is especially suitable for offset presses and large color presses requiring adjustable high torque, adjustable slowdown speeds, and preload adjustment.

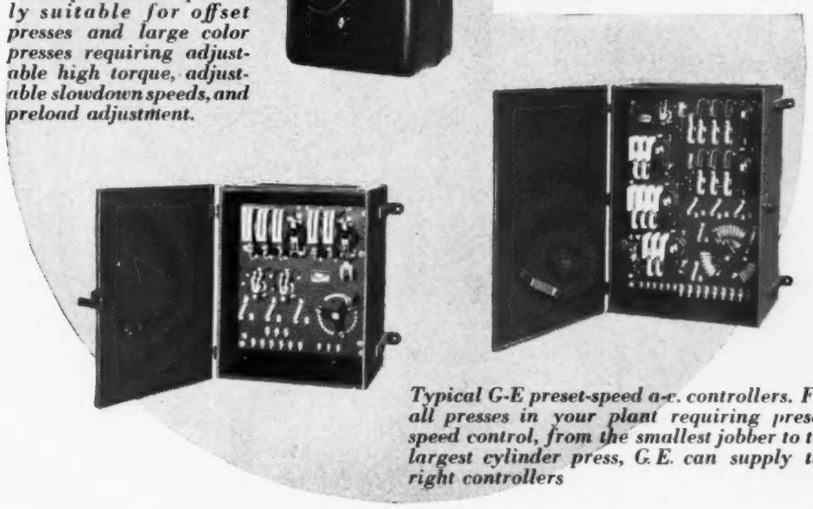
FOR every press and machine in your plant, General Electric manufactures the right controller. Illustrated on this page are preset-speed controllers—part of the complete G-E line of a-c. and d-c. controllers.

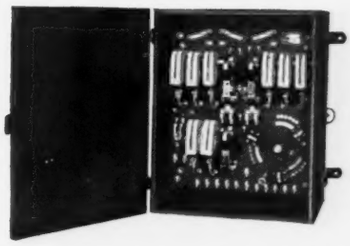
G-E controllers offer you important features which mean better press work in your plant. They provide for high starting torque and a wide operating-speed range, with slowdown speeds of 25 to 30 per cent. Easy regulation of press speeds to accommodate different classes of work is made possible by convenient adjusting devices on the front of the controllers.

Teamed with G-E motors, these controllers will give you press-drive equipment which combines the utmost in efficiency and dependability with long life and low maintenance.

G-E engineers, thoroughly experienced in making all types of printing-plant installations, are ready to help you with your electric-equipment problems. Furthermore, General Electric maintains factory stocks of printing-plant equipment and a nation-wide system of warehouses and service shops which assure you of prompt, satisfactory service when it is needed.

Whether you are buying new presses or modernizing existing ones, when you require electric equipment get in touch with one of our printing-equipment specialists at the nearest G-E office. General Electric Company, Schenectady, N. Y.



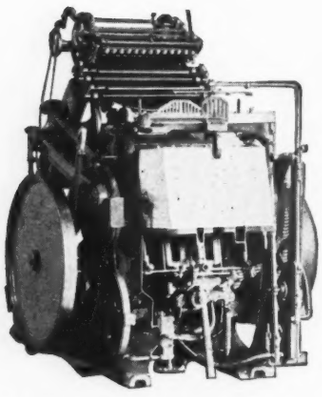


Typical G-E preset-speed a-c. controllers. For all presses in your plant requiring preset-speed control, from the smallest jobber to the largest cylinder press, G. E. can supply the right controllers

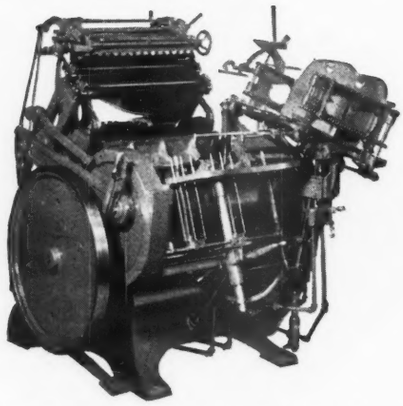
080-28

GENERAL ELECTRIC

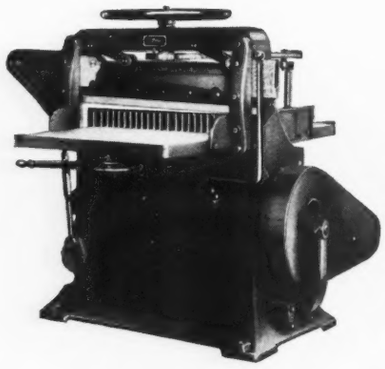
CHANDLER & PRICE AUTOMATIC PRESSES AND PAPER CUTTERS



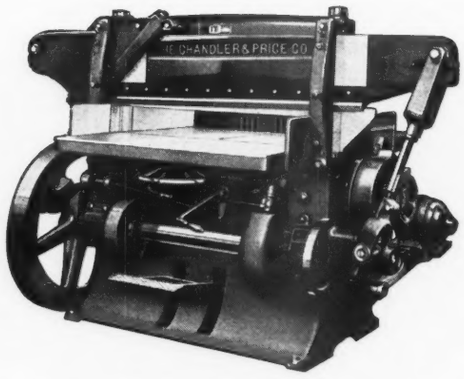
The New Craftsman Press with C & P Rice Automatic Feeder; 10x15 and 12x18. The high efficiency automatic job press, incorporating Handwheel Impression Control and many other features insuring better presswork and high hourly production, with less time lost in makeready and press adjustments. Write for illustrated bulletin containing complete description of the cost-saving advantages of these new presses.



The 14½ x 22 Craftsman Automatic Unit, Regular and Heavy Duty. Capable of finest presswork on many jobs usually considered beyond the capacity of automatic presses. The Heavy Duty Unit also provides automatic feeding on much die-cutting, scoring, creasing, stamping and embossing that would otherwise have to be expensively hand-fed. Description and specifications on request.



The 34½" Craftsman Cutter. The hand clamp cutter for the busy shop of moderate size, or to provide extra cutting capacity at small investment for the larger plant. Many design features similar to larger C & P full-automatic cutters—solid frame for permanent accuracy; knife *pulled*, not pushed, through stock; back gauge clamp that takes up its own wear, etc. Write for complete description.



Chandler & Price Automatic Paper Cutters, built in 39", 44" and 50" sizes. Offering numerous exclusive advantages—knife *pulled*, not pushed, through stock; binder friction adjustment accessible at side of cutter; back gauge lock that takes up its own wear; and many other features of interest to every experienced cutter owner. Ask for illustrated bulletin and specifications.

Chandler & Price manufactures a complete line of job printing presses and paper cutters for the modern printing establishment—26 machines in all—every one a proved money-maker for the printer. The complete line on display at our factory at 6000 Carnegie Avenue, Cleveland, has been of much interest to printers and others who have seen it. We should like to show it to you, whenever you are in that vicinity.

THE CHANDLER & PRICE COMPANY • CLEVELAND • OHIO

Branch Offices and Display Rooms:

NEW YORK: Grand Central Palace, 480 Lexington Avenue • CHICAGO: Transportation Building, 608 South Dearborn Street

Don't Make a **BOTTLE NECK** *of your Stereotype Dept.*

WITH THE FALL RUSH ON, with Christmas in the offing, you need the best facilities for stereotyping speed at press time.

WHEN HALF THE FORMS come through in the last twenty minutes, making press time is no longer a question of "starters."

LATE ADS, LATE PROOFS call for starter speed on a big proportion of the forms, to prevent a bottle neck jam in the stereo department.

CERTIFIEDS ARE FAST MATS, molding sharply with minimum pressure, saving time at the scorcher and producing a first cast that goes right to the press room.

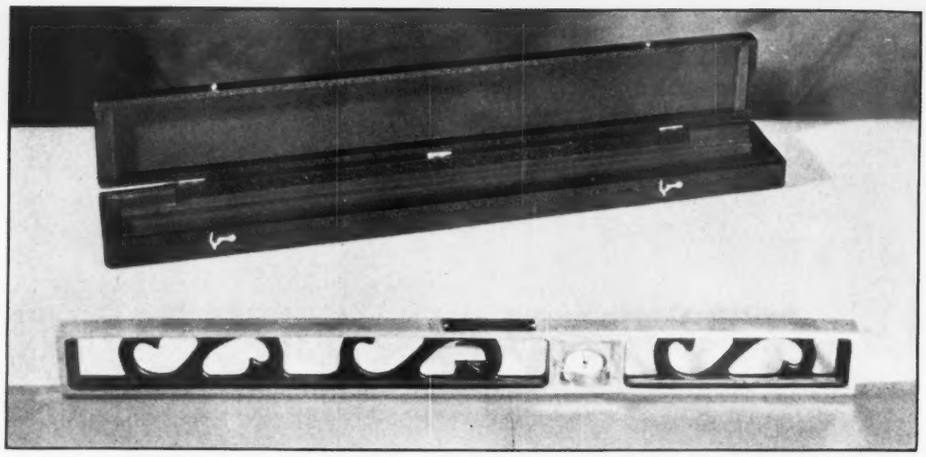
CERTIFIED UNIFORMITY is your greatest insurance of smooth operation. Stereotypers using Certifieds insist that they could not possibly make their present schedules by any other means.

IS IT TOO MUCH TO ASK that you test their claims?

CERTIFIED DRY MAT CORPORATION • 338 MADISON AVE. • NEW YORK, N. Y.

Certified
DRY MATS

Mechanical Executives Use a



BOBE-METER

FOR CURVE PLATE ACCURACY

Using Bobe-Meter in Foundry

Leading pressroom, stereotype and electrotype foundry executives are using a Bobe-Meter for quickly determining imperfections in stereotype and electrotype plates, such as concavity, distortion, or high spots. Also for checking casting boxes for warping.

If you seek more uniform, cleaner reproduction from your plate, use an inexpensive Bobe-Meter. It will quickly enable you to locate defects in plates, thereby saving time and preventing poor printing.

The cost of the Bobe-Meter is low indeed compared with its saving. It pays for itself quickly. Every plant owner should provide one for each of his pressroom and foundry executives, to insure better printing!

Each Bobe-Meter comes in a plush-lined, nicely finished case. Price, $34.50, delivered.

Bobe-Meter Manufacturing Co.
1730 Standard Building Cleveland, Ohio

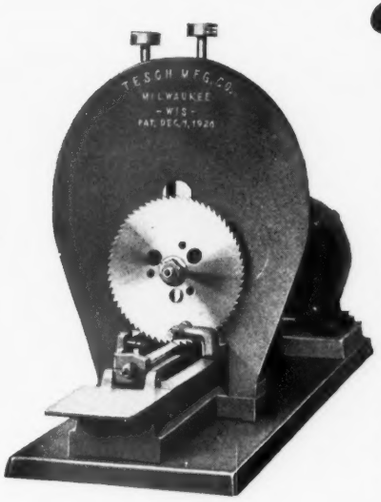
Pressman Using Bobe-Meter

A FEW OF THE MANY USERS

Buffalo Times
Kansas City Star
New York News (2)
Washington News
Chattanooga Times
Milwaukee Journal
Jackson (Miss.) Daily Clarion-Ledger
Chicago Herald-Examiner
St. Louis Post-Dispatch
Rochester Journal-American
Joseph Keller (3) Holland
Charleston Gazette
Port Huron Times-Herald
Washington Evening Star
New York Journal-American
Syracuse Post-Standard
Detroit Mirror
Illinois State Register
Nashua Gummed and Coated Paper Co.
Houston Chronicle
Des Moines Register and Tribune
Minneapolis Journal
Chicago Times
Daily Home News, (New Brunswick, N. J.)
Waterloo Daily Courier
Pittsburgh Publishing Co. (3)
Jersey City Printing Co.
Chicago Tribune
Detroit Times
Sandusky Newspapers, Inc.
Toronto Type Foundry
Tacoma Tribune
Omaha World-Herald

SAW FILING and SWAGING with these MACHINES

Completed in Less Than 10 Minutes



It will sharpen circular saws from the smallest linotype and trimming sizes up to 11-inch diameter.

TESCH *Automatic* Saw Filing Machine

The TESCH principle of sharpening circular saw teeth is the nearest-to-perfect method on the market today, as the filing of dull and broken teeth is not guided from the teeth of the old worn blade, but from an accurately machined index plate of the same number of teeth as the saw being sharpened.

This accurate index plate feeds the saw teeth automatically to a traveling file, making all teeth absolutely uniform in spacing and cutting edge, trueing the saw blade and keeping it perfectly circular.

Old saw blades can be retoothed or new saws can be made with any number of teeth desired.

Either electric driven or hand-powered.

TESCH *Automatic* Saw Tooth Swager

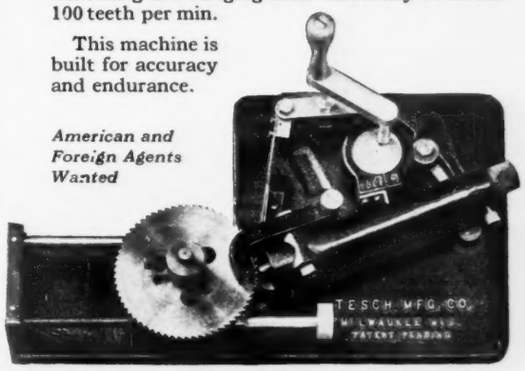
Machine swaging of circular saw teeth is recommended by mechanical engineers as the best method of giving saw teeth a clearance in the cut to prevent friction and overheating of the blade.

Swaged teeth, being equally supported on both sides, are not subject to side strains and will stand up longer when cutting through metal than set teeth.

The Tesch Automatic Swager is controlled by a hand-cranked eccentric which is rotated anti-clockwise releasing a spring-driven hammer delivering the swaging blow uniformly to about 100 teeth per min.

This machine is built for accuracy and endurance.

American and Foreign Agents Wanted

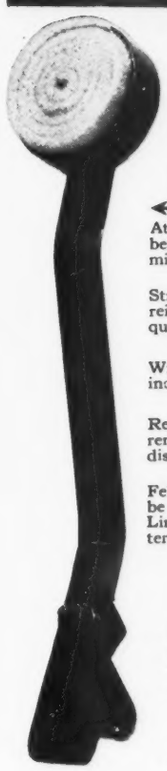


Write for Literature and Prices

TESCH MFG. CO. 2700 South 19th St. MILWAUKEE, WIS.

Improved Parts That Deserve a Place On Every Machine

TRADE ★ MARK



Harrington Delivery Slide Bar and Clamp ↑

Linotypes Only — Strong, rugged construction of teeth. Clamp engages two notches. Unquestionably superior from standpoint of efficiency and durability. Bar and clamp assembler, $5.75.

Back Mold Wiper ←

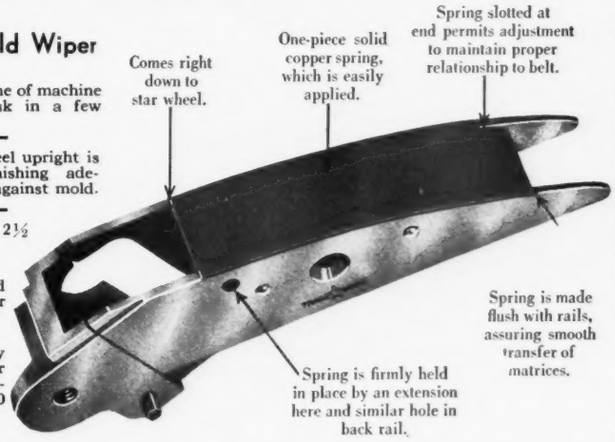
Attached to frame of machine below mold disk in a few minutes.

Strong spring steel upright is reinforced, furnishing adequate pressure against mold.

Wiping surface 2½ inches.

Revolving and removable wiper disc.

Felt wiper may be reversed. (For Linotype and Intertype.) $3.50


Comes right down to star wheel.
One-piece solid copper spring, which is easily applied.
Spring slotted at end permits adjustment to maintain proper relationship to belt.
Spring is made flush with rails, assuring smooth transfer of matrices.
Spring is firmly held in place by an extension here and similar hole in back rail.

Front Mold Wiper

The slotted felt can be changed just by slipping it out.

Felt Reversible

Adjustment provided for regulating tension against mold.

$1.85

Linotype and Intertype

Assembler Chute Rails and Spring ←

Smoother transfer of matrices. Rails and spring can be applied to any chute block. Also does away with soldering of springs.

Rails each, 1.40, Spring each, 25 cents, Chute Block, Rails and Spring, Assembled, $5.55. (Linotype only)

Improved Assembler Slide ↓

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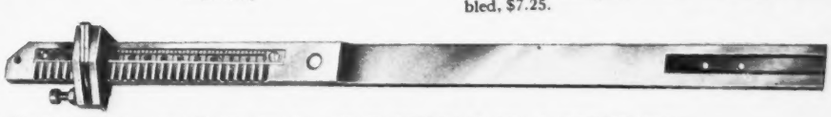

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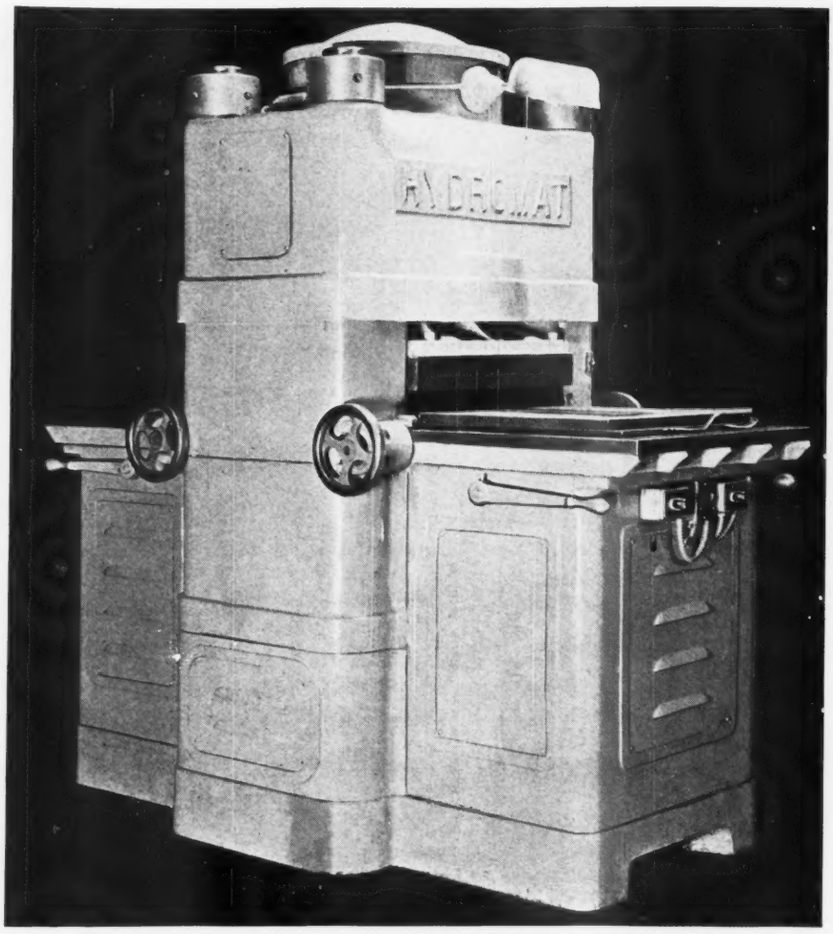

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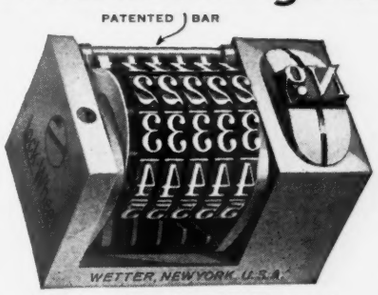

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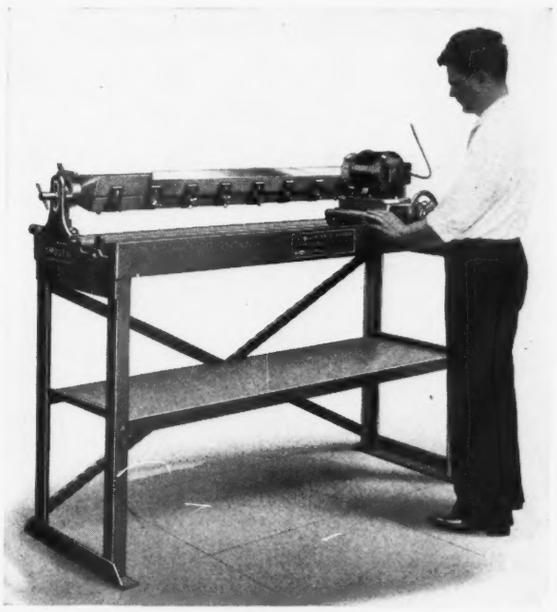

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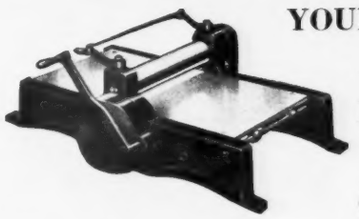

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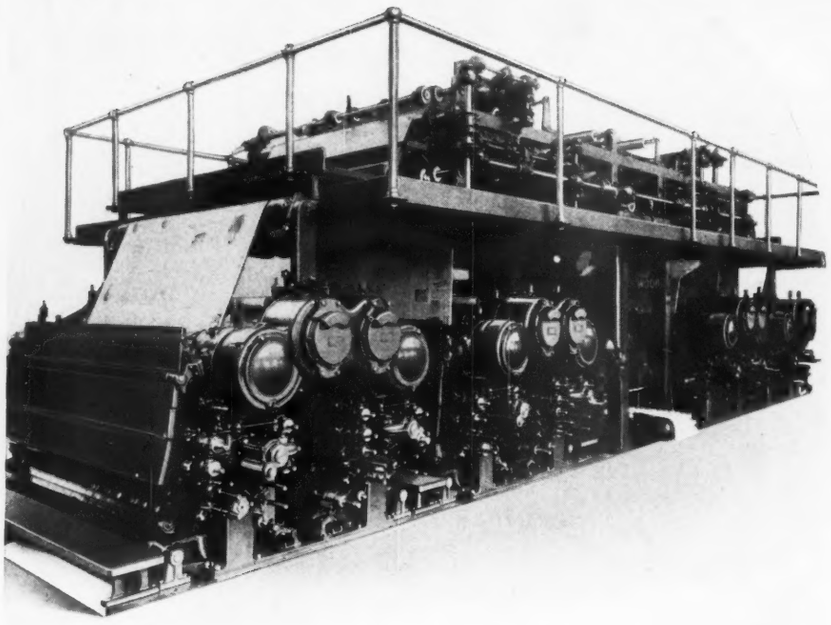

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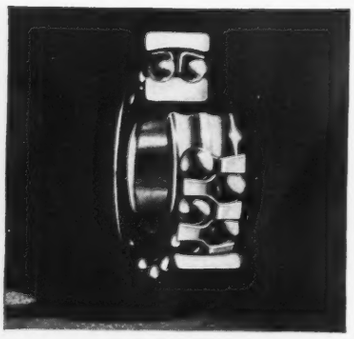

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BROOKLYN CHAT	Brooklyn, N. Y.
CLINTON HERALD	Clinton, Iowa.
COLUMBUS DISPATCH	Columbus, Ohio.
DAILY HOME NEWS	New Brunswick, N. J.
DAILY PRESS-TIMES HERALD	Newport News, Va.
DANBURY NEWS TIMES	Danbury, Conn.
DANVILLE REGISTER	Danville, Va.
DAY PUBLISHING CO.	New London, Conn.
*DENVER POST	Denver, Colo.
*DROVERS JOURNAL PRESS	Chicago, Ill.
EASTON DAILY EXPRESS	Easton, Pa.
*EL PASO TIMES	El Paso, Texas.
EVANSVILLE COURIER	Evansville, Ind.
EVENING NEWS	Wilkes-Barre, Pa.
EVENING STAR	Washington, D. C.
EVENING TRIBUNE TIMES	Hornell, N. Y.
FALL RIVER HERALD NEWS	Fall River, Mass.
FREE PRESS	Detroit, Mich.
GAZETTE & DAILY	York, Pa.
GRAND RAPIDS HERALD	Grand Rapids, Mich.
HAMILTON SPECTATOR	Hamilton, Ontario.
HERALD-MAIL	Hagerstown, Md.
JAMESTOWN JOURNAL	Jamestown, N. Y.
JERSEY JOURNAL	Jersey City, N. J.
JERSEY OBSERVER	Hoboken, N. J.
JOHNSTOWN TRIBUNE	Johnstown, Pa.
JOURNAL GAZETTE	Fort Wayne, Ind.
LEADER REPUBLICAN HERALD	Gloversville, N. Y.
LEWISTON DAILY SUN JOURNAL	Lewiston, Me.
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LOWELL COURIER-CITIZEN	Lowell, Mass.
MASON CITY GLOBE-GAZETTE	Mason City, Iowa.
MERIDEN MORNING RECORD	Meriden, Conn.
MORNING RECORD	Yakima, Wash.
MT. VERNON DAILY ARGUS	Mt. Vernon, N. Y.
NEWBURGH-BEACON NEWS	Newburgh, N. Y.
NEWPORT DAILY NEWS	Newport, R. I.
NEWS-LEADER	Richmond, Va.
NORFOLK LEDGER DISPATCH	Norfolk, Va.
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PHILADELPHIA BULLETIN	Philadelphia, Pa.
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PORTSMOUTH HERALD	Portsmouth, N. H.
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POST TRIBUNE	Gary, Ind.
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QUINCY NEWSPAPERS	Quincy, Ill.
RALEIGH TIMES	Raleigh, N. C.
RECORD HERALD	Waynesboro, Pa.
*REGISTER-REPUBLIC	Rockford, Ill.
ROYAL OAK TRIBUNE	Royal Oak, Mich.
SAGINAW DAILY NEWS	Saginaw, Mich.
ST. JOSEPH NEWS PRESS	St. Joseph, Mo.
SCHENECTADY UNION STAR	Schenectady, N. Y.
THE SCRANTONIAN	Scranton, Pa.
SOUTHBRIDGE NEWS	Southbridge, Mass.
SPRINGFIELD NEWS-SUN	Springfield, Ohio.
SPRINGFIELD SHOPPING NEWS	Springfield, Mass.
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STAR-GAZETTE	Elmira, N. Y.
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STAR PUBLISHING CO.	Indianapolis, Ind.
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TIMES-HERALD	Washington, D. C.
TIMES-HERALD	Olean, N. Y.
TIMES-LEADER	Wilkes-Barre, Pa.
TIMES-UNION	Rochester, N. Y.
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TRENTON TIMES	Trenton, N. J.
TRIBUNE JOURNAL	Pocatello, Idaho.
TROY RECORD	Troy, N. Y.
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Volume 49 — *Number 2*

November 1934 Contents

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A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Fields.

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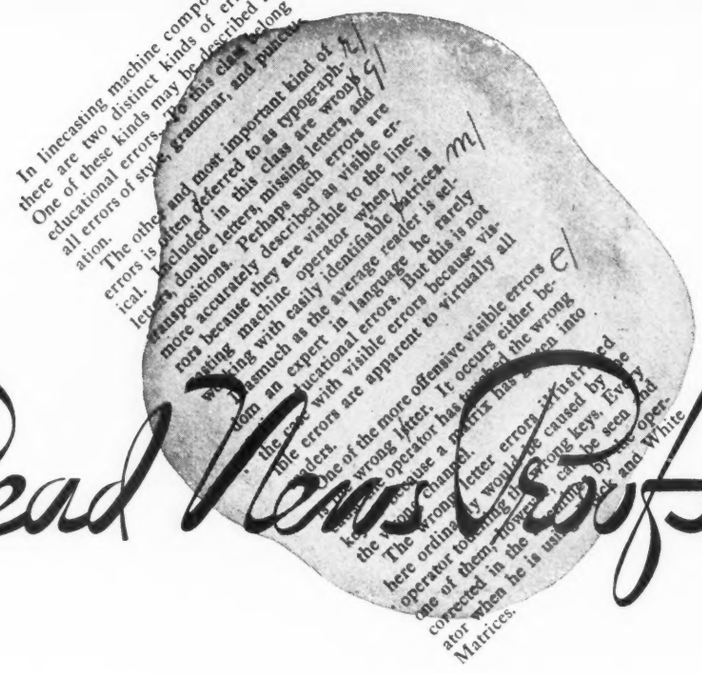

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Printing
EQUIPMENT
Engineer

for November 1934

We Want—

[AN EDITORIAL]

NO SANE person has claimed—ever—that the equipment and supplies used in the printing plant have reached a state of perfection. On the contrary, printing's progressive mechanical executives exert themselves to keep pace with the incessant parade of improvement in things mechanical. Witness the number of patents issued each month relative to printing machinery and processes! Including the period from January this year until the middle of October, approximately 384 printing patents have been granted. In a recent four-week period the United States Patent Office granted 3144 patents representing all industry, 50 of which pertained directly to printing machinery and processes. Whether all patents granted are of practical utility doesn't matter. Surely progress is being made in an industry exhibiting such activity. It also proves that men with foresight have faith in the industry's future.

Speaking of this activity, perhaps it is just as well that agencies competitive to printing have diverted a share of the revenue which would normally benefit the printing industry. We are old-fashioned enough to believe that the will to excell which causes men to strive for further attainment is the nearest approach to Utopia that can be achieved in our age.

In this issue of *Printing* EQUIPMENT *Engineer* several mechanical executive experts express a few opinions regarding equipment which is used by them in the plants over which they have supervision. In addition, suggestions and opinions are given with respect to the improvements which they think would help materially in mechanical production problems. There are certain features in equipment which the mechanical executive feels could be improved upon to eliminate recurrent troubles or to improve the product.

In line with our mechanical executive contributors, *Printing* EQUIPMENT *Engineer* hopes that all equipment manufacturers will welcome the criticisms and constructive suggestions made by men who know intimately the equipment in their plants. The suggestions in all cases may not be practical but the sincerity of the sponsors is unquestioned.

We can appreciate that the viewpoints of the engineer and the mechanical executive are not alike. The one creates a machine—the other accepts it for productive purposes. The engineer, representing the manufacturer, views machine design not alone from the functions which are to be accomplished by the machine he is creating but also adheres to certain principles and mechanical laws. In addition to pleasing the customer, he must defer in some cases to the problem of manufacturing costs so the consumer can afford to buy *his* firm's products at a reasonable price.

Given that machine, the mechanical executive is expected to secure the maximum production of a known quality. He thinks only in terms of what the machine can produce at a minimum operating cost for *his* employer.

In this prevailing viewpoint it is but natural that he should discover, after due analysis, some causes for what he considers limitations in the operation of his equipment. In other instances, it may be determined that the engineer is depending upon the human element to maintain the successful functioning of certain parts of a machine after it has been delivered to the printer. It is probable, too, that the solution asked for by the mechanical executive has defied all the inventive ingenuity of the engineer.

With the above-mentioned statements in mind, *Printing* EQUIPMENT *Engineer* presents several expressions of opinion relative to a few of the production problems of the mechanical executive.

Printing Press Improvements

Suggested and Described—Offset Printing Has Not Yet Come Into Its Own—The Four-Color Ink Drying Problem

By PETER J. DENNERLEIN*

Mr. Dennerlein suggests that less compactness in design, roller bearings, helical gears, sheet control to prevent "licking off" of ink on first impression on roll feed rotary presses, and the alignment of gears and cylinder bearers to determine pitch or travel line by means of cylinder bearers would be desirable additions.

IN FAR too many instances today printing machinery is purchased without consulting the mechanical executive who will be responsible for the production turned out by the equipment. Furthermore, it is purchased for price alone, the number of improvements on the machines being governed by the price.

Between 1920 and 1933 there was a lull in the improvement of multi-color and rotary printing presses. Since 1933, however, machinery builders have given considerable thought to increasing production and improving quality and accessibility, in order to make replacements worthwhile to the printer. Even today most printing presses are built for Times Square, New York City, where floor space is at a premium, with not enough consideration given to the pressrooms which are in locations where convenience and accessibility would offset the slight increase in floor space necessary for the operation of such equipment.

Experience proves that due to this tendency to maintain compactness many much-needed improvements are neglected. For instance, high speed presses lack sufficient ink distribution as well as the proper accessibility for changing and setting rollers, which could be improved by the installation of roller sockets on the outside of the frames and by simplifying the adjusting mechanism.

Another change which would work to great advantage is the placing of all cylinders and rollers on roller bearings, to not only conserve power and lubrication but to eliminate hot bearings which lead eventually to replacements of bearers and cylinder boxes. Cylinder bearers should be of a hardened alloy material or high carbon steel, and of sufficient width to withstand the extreme pressure necessary.

One of the trials of the rotary press printer is the "licking off" of ink on the first side printed due to slippage. Some of this could be prevented, and register improved, by the addition of a sheet control between the white roll and the first impression cylinder on all roll-feed presses. This would feed the paper into the press as it is required instead of depending on the impression to do the feeding. Mechanical sheet feeders should be more simplified so that the average workman can make adjustments.

All gears should be cut on the bias, or helically, so that there would always be two teeth in mesh. The gears and cylinder bearers should be so aligned that the pitch or travel line can be determined by the height of the cylinder bearers. On some rotary presses the travel line is from 0.010 in. to 0.015 in. above the impression cylinder bearers. The plate cylinder throw-off should be controlled by a trip or lever.

Perhaps the greatest hindrance to higher speed is the folding or delivery unit, since it is not at present capable of handling the footage of paper the press can release.

While offset printing has made some rapid strides, it has not come into its own due first of all I believe, to the viewpoint of the lithographer who is unwilling to discard outmoded methods, and second to the letterpress printer attempting to compete with whatever equipment he has at his disposal, failing to recognize that this new process has its place in present-day printing. On the other hand, in hesitating to build multi-color presses, offset press manufacturers were mistaken to the same degree as were publishers when they fought off the practicability of the multi-color printing press as compared with one and two-color flat-bed presses.

With the proper viewpoint toward multi-color offset printing, I am sure that process engravers would be more willing to heed the requirements of four-color wet process printing, rather than cling to the old ideas of building up solids and areas in three or four colors which, although they produced wonderful effects in the one-color dry printing days, are not to the best advantage in wet process printing. At the same time, it is my opinion that too much of the four-color offset process is left in the hands of the photoengraver instead of those of the photo-lith man who is more qualified to build up the negatives needed for offset printing.

The ideal unit for four-color printing, and one that many publishers have been dreaming about, is the four-color perfecting press and its only obstacle is that of making printing ink dry fast enough to allow both sides to be printed simultaneously. To overcome this obstacle it is necessary to find a substitute for linseed oil varnishes, the vehicle used at present for multi-color inks and offset inks. Since so much time and money have been spent in the advancement of rotogravure and offset, it would seem no more than proper to give equal attention to this ink problem by presenting it to chemists and engineers to be solved.

*Superintendent, The McCall Publishing Company, Dayton, Ohio.

Improved Newspaper Printing

Highly Desired by Mechanical Executives—Some Things Wanted Are Named —Deep Etched Engravings Essential

By ARTHUR BURNS*

Mr. Burns makes suggestions about some things which he believes will improve newspaper printing.

THE title of this article gives one the same feeling that the little boy had when taken to a toy shop and was asked what he would like for Christmas. We will not be so covetous as the boy because the space allotted allows a mention of only three items.

For one thing, any newspaper executive will admit that the reproduction of type faces is far from being perfect in newspapers. It is only necessary to compare a sample showing of a type face from one of the composing machine manufacturers and the same type printed under newspaper conditions to realize this fact vividly.

These two sectional lines represent a 12-time enlargement of a two-line specimen photographed directly from a printed newspaper page.

One reason for the distortion of type faces must lie in the stereotyping process. The pressure applied to produce a mat most certainly dulls the delicate corners of the type and depresses the fine lines. Does not an improvement here suggest a mat soft enough to be made with very little pressure and with no injury to the type face? Such a mat would give more faithful reproduction of the engraver's fine screen dot. At the same time this ideal flong would, on the application of heat, be hard and tough and would retain the exact shape of the original matrix molding.

A further consideration in the matter of type reproduction is a metallurgical one. Under our present method we use the time honored type metal in a sort of die-casting machine evidently trusting that it is the best that can be used. Does this metal fully fill out and duplicate the type matrices into which it is cast? A complete exclusion of air, for one thing, would certainly produce better slugs. A more rapid filling of the mold with metal and more accurate temperature control would also improve the product of these matrices.

Another of the production worries of today is the so-called "show through." The elimination of this fault calls at first glance for that seemingly unknown article—*opaque* newsprint paper. When we consider, however, that some of the best magazines today are printed on heavy paper that, to some extent, exhibits the fault of "show through" it is evidently a far cry to an opaque newsprint. It may be said that ink is an item which causes much of the show-through by the collection of dried ink on press blankets. These conditions suggest a change in the composition of ink in order to produce a complete "set" instantly. It also suggests some change to improve presses and blankets to prevent the excess carbon from collecting which is now one cause of the poorer quality of first impression printing. Experiments have showed that by the use of a "slip sheet" the first impression is as good as the second but the desired result could not be obtained with this method on newspapers due to the waste and time involved. It is hoped that some gifted person will kill this *bete noire* before long.

These two sectional lines also represent a 12-time enlargement of a two-line specimen. They were photographed directly from a specimen sheet of a manufacturer of composing machines.

The imperfections are evident in these pictures which show the marks of the routing tool used for making the matrix.

Another "want" of the mechanical man is an improvement in engravings. These now come to him for printing with various depths, with various sizes and shapes of dots and with no certainty that the subject is reproduced beyond the capability of the mechanics employed. It is a requisite for better printing of illustrations that engravings be deeply etched and that the different tones be reproduced faithfully to the copy.

*Mechanical Superintendent, the *Herald-Tribune*, New York, New York.

Line Composing Machinery

Developmental Work Has Responded to Demand for Operating Flexibility —Discussion on Future Possibilities

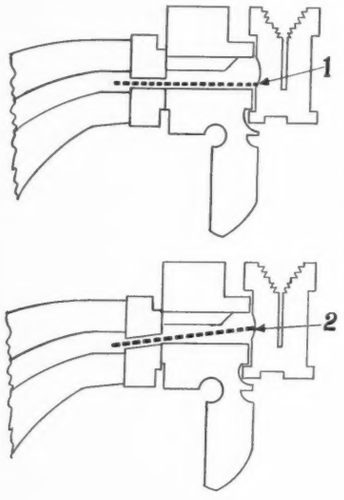
By MAC SINCLAIR

COMPOSING machinery will never be developed to a point where it will not require skilled maintenance attention. The major difficulty with many composing machine installations is that the owners do not provide proper machine maintenance facilities. Much of the fine work of the composing machine engineer is offset and the attainment of better printing is retarded. In addition, little encouragement is being given to provide educational facilities to take care of future requirements.

THE TELETYPESETTER

Uppermost in the mind of the production-minded mechanical executive with respect to the Teletypesetter is the impulse to speculate upon its possibilities regarding the quantity of type matter which it is supposed to be capable of disgorging. It seems to be taken for granted that a composing machine fitted with the Teletype attachment is fully capable of producing printable slugs in great quantity without regard for machine limitations. This attitude will probably be corrected when operating units have been installed throughout the country.

On the other hand, for those wanting a finer grade of printing, the Teletypesetter may be an instrument in the further attainment of precision methods in letterpress printing. That this is possible will be understood from the fact that original composition can be done on a perforating unit away from intimate association with the purely mechanical casting operations. Composing type is an art and if it may be carried on without mechanical diversions undivided attention may be given the proper spacing of lines.



The theoretical point of metal impact, 1, *in a line-slug display mold. At* 2 *the point of metal impact (also theoretical) in the same mold has been elevated to somewhere near the center of the matrix cell by drilling all of the mouthpiece jets at a small angle.*

DEVELOPMENT RESPONDS TO DEMAND FOR FLEXIBILITY

For a number of years line-composing machine developmental work has been concentrated largely upon redesigning component machine parts to expand the range of work which may be secured from the circulating matrix equipment attached to the conventional casting unit. The ever-present need for quantities of small-face composition is responsible for this. In addition, the printer has demanded flexibility so that (still using the one casting unit) he may change instantly with the least possible inconvenience from small to large-face composition and *vice versa.*

From this it will be seen that flexibility begets complication because the composing machine must be made simple in operation for the user. Due to the many changes made from one type face to another by the operator in the course of the day's work, individual machine output has been reduced. This, *per se,* is the price of flexibility.

DISPLAY FACES AND SLUG TRIMMING

While the casting range of the machine has been expanded, providing an easier means to obtain precise trimming of the slugs and comparable development of the casting apparatus to obtain a better printing surface in the larger matrix faces seem to have been retarded.

Future needs may make advisable the elimination of the "floating trim" of line slugs. Just what form of mechanism this will take is not apparent at the moment although some suggestion has been made that an integrally-built slug truing device is the answer.

STATIONARY LINE-SLUG MOLD

Perhaps the major item which has retarded development of a water-cooled line-slug mold having adjustably sliding parts is the circulating matrix. The movable parts essential to adjustment of the mold cavity for length and movement of the ejector would require lubrication for anti-friction purposes. The lubricating medium, if transferred to matrices, would destroy the nicety of matrix response by interfering with gravitational action. However, if the lubricating problem were solved, the advantages of a water-cooled semi-stationary mold for casting line slugs would be positive control of mold temperature, elimination of the ejector problem, better control of slug dimension, as well as flexible means for changing slug length.

ACTION OF METAL IN DISPLAY MOLD

In the conventional casting apparatus, metal is ejected from the crucible mouthpiece into the mold at the lower level of the casting cell on a line and parallel with the constant wall of the mold. Being in an inverted position when locked against the mold the tops of the matrix letter characters receive the direct force of the emitted metal. At the instant the metal has spent its force against the top of the letter characters it starts solidification and fills out the balance of the mold cavity by spraying in many directions as deflected by the side walls and relieved portions of the individual matrix letter characters. This accounts partially for the tendency toward a disturbed appearance of the bottom portions of the letter characters on a display slug.

It has been suggested that the casting of display faces can be improved by drilling all of the mouthpiece jets at an angle so as to change the metal impact against the matrix letter characters to somewhere near the average center area of the matrix cell. Whether such an arrangement would bring about air displacement complications by trapping air bells directly under the printing surface is not apparent. So long as the air bells are distributed well down the slug body the printing and pressure-resisting qualities of the slugs would not be impaired. All of the jets, of course, would align with the constant side of the mold as in the present mouthpiece but would slant downwardly from the front of the mouthpiece to permit casting 5 and 6-point slugs as at present.

A NEW ALLOY?

Perhaps the next improvement in the printing qualities of the larger display faces will come about with the development of a new metal alloy which will have the very desirable property of filling out smoothly the recesses in display matrix

cells. Elimination of as much air as possible from the area between the pot crucible metal level and the mold, a considerably stepped-up pump casting pressure and an improved means for displacing air from the mold cell previous to metal injection ought to improve the casting properties of the present line-slug metal.

THE EJECTOR PROBLEM

A partially unfulfilled need for all line-composing machines is a means to make the ejector automatically selective with a change of mold liners. This problem has received considerable attention from composing machine engineers. The writer has been permitted to see working models and drawings for many different devices, all more or less efficient. Analysis shows that most of them have been developed to alleviate conditions peculiar to a particular plant. A composing machine engineer recently told the writer that his company would much prefer building integrally into the machine such a device rather than fill orders for liner replacements. Perhaps the best device developed to date for the linotype is the Ejector Set which really protects liners of varying measures in a four-mold disk from damage by the ejector blade.

To Improve Letterpress Printing

Mechanical Executive Needs Materials Held To Specifications—Why Successful Offset Printer Is Successful

By W. W. HITCHNER*

WHAT we, as pressroom executives need to aid us in producing quality printing at a profit to our respective firms, is a higher standard of quality in pressroom supplies. The only way this can be accomplished is by setting up certain standards and acceptance tolerances. Once it is known that a certain firm or firms, will not accept supplies unless they come within the limit of such standards, decided upon by these firms, you can gamble every effort will be made to please and to prevent rejection of materials.

Prevailing custom influenced by antiquated ideas is the curse of the pressroom. There is no reason why we should continue to do certain things in the wrong manner just because it has been customary in the past.

The conscientious executive strives hard to do as good a job of make-ready as possible, he sees that the various sheets are carefully okayed for color and final make-ready and that the pressmen keep as closely as possible to the standard set up by the color and make-ready okays.

It is the writer's contention that all supplies should be produced with painstaking care. A perfect press, a perfect form, good ink, good rollers and good paper—all these are ideal elements which reduce presswork costs to a minimum, and the farther we recede from them the more unproductive costs there will be in the pressroom. In the best presses of today we have almost reached the ideal condition with respect to the bed and impression, but judging from forms seen in many pressrooms, the ideal form is a long way off, to say nothing of the ink and paper. It is the lack of perfection in these products that increases the cost of presswork.

*Superintendent of Pressroom Production, the Robt. O. Law Co., Chicago, Ill.

The offset process is becoming more popular daily. One of the chief reasons for its popularity is the high cost of letter-press printing. Let us consider why it is so expensive. On careful investigation, we find among other things, that electrotype plates have been careless beveled, causing a loss of much time to get them in register. This loss sometimes runs as high as fifty per cent of the actual make-ready time. If these plates were carefully beveled so they would all have the same head and back margins, there would be no delay to amount to anything after the first form has been properly positioned.

A variance in the height of electrotypes thus creating extra make-ready time is another cause. Electrotypes should be shaved correctly to within 0.001 in. They should also be tested carefully by the finisher for hard edges, low spots and low or bad letters. These low spots and low letters, of course, should be brought up to a level plane with the rest of the plate. I have seen many electrotypes on many jobs that required an extra mark-out sheet for the final make-ready simply because the plates contained many low letters and hard edges. Most of the trouble with low letters is due to faulty type when set or cast.

Management is responsible for the high cost of letterpress printing which is caused by excessive make-ready. The real pressman is not to blame. He must take what is given him and make it print properly. Considering the errors with which he has to contend, he does amazingly well.

The buyer of pressroom supplies should be a practical man and a keen student. Too often supplies are bought on a prices basis rather than that of quality and right here the troubles of the pressroom usually, are created. It is much better to buy on a quality basis. Then one can demand that certain standards be upheld.

The successful offset printer is successful because he adheres to certain standards that have been set up and accepted. Were he to purchase ink lacking in pigment strength and other supplies on a price rather than a quality basis, with disregard for any set standards (as many letterpress printers do) it is a safe bet that he would soon be leaving the successful class.

All those connected with the offset printing business realize and fully appreciate the vital importance of certain set standards. They know that once the form is placed on the press, few if any corrections of any kind can be made and instead of many hours of makeready time, the job is actually make-ready and running within a few minutes from the time the form is placed on the press. There are no headaches caused by having to remove more than half of the plates in the form in order to make them print properly. There is no justification of form to prevent spaces and other material from working up. There is no costly line up and register time. No doubt there are causes for headaches in the offset industry as well as in the letter-press industry for all is not gold that glitters. I am stressing certain weaknesses known to most everyone in the letter-press field. The trouble lies in the fact that they are not recognized by those in authority as being the Jimmy Valentines of their business.

The writer has endeavored to point out certain weak links in the letter-press industry knowing that a chain is only as strong as its weakest link.

Two real Craftsmen have done much to improve conditions by setting up certain high standards. Their efforts are not fully appreciated by many because of the fact that they are manufacturers of machinery for the printing trade. However, it is pleasing to note that their genius and sincere efforts are recognized more and more.

Multi-Color Web Offset Press

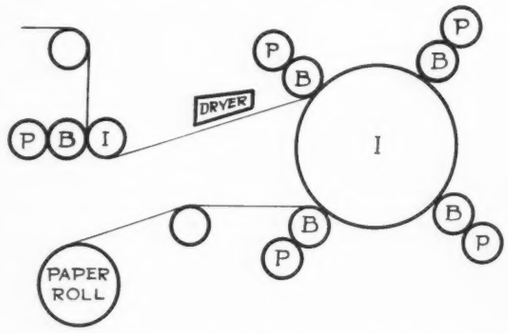
For Supplement Printing Suggested by Writer—Press Should Have Capacity for Two Full Sixteen-Page Sections

By FRANK O. SULLIVAN

Mr. Sullivan thinks a Multi-Color Web Offset Press is possible since accurate registering of color plates is no longer a problem.

IN THE early part of 1927 I wrote a review about the *Australasian,* a weekly supplement of the Melbourne *Daily Argus.* This weekly was executed on a web rotary offset press of German make.

The supplement was an eight-page affair, printed in one color, size 13 in. by 19 in. folded, and a very excellent example of offset printing. T. W. Brown, superintendent of the plant, was the presiding genius who was responsible for its production. Earlier in his career Brown was the first man to print a weekly newspaper, the Blackpool *Times,* in England, by means of sheet-fed offset presses.



Diagrammatic plan for Multi-Color Web Offset Printing Press suggested by writer. P *represents plate cylinders;* B *the blanket cylinders, and* I *the impression cylinders.*

Since receipt of the *Australasian* and subsequent copies, I have looked forward to seeing our enterprising American press manufacturers vision this field and build five or six-color web offset presses for the production of Sunday supplements.

Such a press must have a capacity for two sixteen-page sections, four colors on one side and one color on the back. The speed must be 12,500 or more impressions per hour, folded and delivered. With the present-day photo-mechanical equipment on the market, it is possible to make plates in a speedy and economical manner. The accurate placing of the negatives of type and halftones, as well as the accurate registering of color plates, is no longer a problem in offset printing.

Of course, such a press would require a harder paper than the present newsprint paper. It must be devoid of lint, fuzz or of picking, and this can be accomplished by surface sizing the paper now used by newspapers. It would probably add half a cent a pound to the cost, but the results obtained would be worth the extra expense.

In the accompanying diagram the writer has given a possible conception of such a press. You will notice that the paper is fed in from the roll directly to the cylinder, around which the four colors are to be printed. From there the paper travels to the cylinders for printing the one color on the back.

On such a press either gas or electric appliances should be used for the quicker drying of the four colors. If this is not done there will be danger of offset and double printing on the impression cylinder of the one-color attachment.

A press of this character is possible and probable. Multi-color web offset presses are in constant use in England, France, Germany, and far away Japan. These presses are all of German make, manufactured by the Vomag Company, of Plauen, Germany, and other German press builders. There is one in use in this country, at the Methodist Book Concern, Cincinnati, and one in the plant of the Federated Press, of Montreal, Canada.

Lack Of Paper Uniformity

Laid at Door of Printing Industry—Paper Makers Have Made Little Progress — Printing Research Suggested

By B. L. WEHMHOFF*

Mr. Wehmhoff lists important characteristics which should be maintained within uniform limits in average printing papers; also lists variations to show need of greater uniformity.

PRINTING papers comprise the major portion of all paper produced, and as a class are one of the most important raw materials used in the printing industry. One of the prime requisites of any raw material is that it be of uniform quality, suitable for the purposes intended. Methods for measuring quality, understood by both producer and consumer, are essential before uniformity can be obtained, and the lack of such methods accounts for the wide variations

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experienced today in the printing qualities of practically all grades of paper.

It is true that paper manufacturers maintain technical control over their raw materials and processes, and that, with few exceptions, the paper produced is uniform when considered from their viewpoint. Paper makers have tried to consider their product from the printer's standpoint. This is shown by the work of some of the committees of their Technical Association, which, incidentally, is one of the strongest and most active technical organizations in this country. However, they are not familiar with printing processes, as a result of which but little progress has been made in improving the printing qualities of paper.

The printing industry is mainly responsible for the present-day lack of uniformity in printing papers. As the principal consumer of paper, it is in a position to determine those characteristics of paper which should be controlled to permit uniform printing and, through a correlation of laboratory and plant work, to develop testing methods for measuring the desired qualities, as well as defining the limits within which the various grades and weights of paper should be controlled.

Since such work cannot be done in one plant and serve the entire industry, a definite, concerted research program is suggested as a practical method of handling the problem. It is essential that the work be conducted under the direction of one or more national printing industry associations, as specifications and testing methods for any raw materials can be developed only through scientific application of the knowledge of the practical requirements for their use.

A few of the larger printing plants, recognizing the need for technical work in printing, have installed laboratories in which considerable independent work has been done in measuring the printing qualities of paper. The results of their work would no doubt be made available in a research program such as suggested above.

Among the most important characteristics which should be maintained within uniform limits in the average printing papers are:

1. Ink reception.
2. Density, or porosity.
3. Opacity, particularly in light-weight papers.
4. Printing smoothness.
5. Hardness, or resiliency.
6. Formation.
7. Color.

The relative order of importance of these characteristics varies according to the kind and weight of paper as well as to the kind of printing. It is quite possible that further research would develop definite relationships between some of these factors, which would eliminate one or more of them from consideration.

The maintenance of a greater degree of uniformity in these factors is essential if improved printing is to be produced. Methods of measuring some of them have been developed, but further study and final sponsorship by the printing industry is required if the industry as a whole is to profit.

As proof of the necessity for greater uniformity in printing qualities of paper there is listed below the percentage variation found in these characteristics in single shipments. None of these variations are exceptional; on the contrary, they are quite usual:

1. Ink reception—500% between successive sheets.
2. Density—300%.
3. Opacity—10%.
4. Printing smoothness—300%.
5. Hardness—10%.
6. Formation—no numerical measurement developed.
7. Color—no numerical measurement developed.

Considerable variations in both formation and color frequently occur in individual loads of paper.

Small variations in opacity and hardness affect the quality of the finished product fully as much as the larger percentages noted in ink reception, density, and printing smoothness. A rather wide range can exist in some of these characteristics without affecting the printing. However, when they vary to the extent shown, the quality of the printing is radically impaired.

The printing industry is the only major industry which does not define exactly the qualities required in its principal raw materials. Until the industry as a whole becomes research-conscious, wide variations in the printing qualities of paper will continue to exist, to the detriment of the quality of printing and the printer's pocketbook.

To Improve Offset Printing

Writer Says Reproductive Copy Suited To Process Limitations Should Be Provided To Obtain The Best Results

By GUSTAV R. MAYER*

Mr. Mayer explains limitations of offset printing process as compared to letterpress with respect to making corrections. Being a chemical process, offset is dependent on human guidance for consistent production.

FUNDAMENTAL knowledge about the mechanical condition and preparation of copy for offset appears as the most important factor in both the office and production division of the printing plant with one or more offset presses. Typographic printers are very much aware that lithographic offset printing, usually called "offset," is a method of printing which is giving them plenty of competition in which the selling price is considerably lower than the typographic cost of production.

Modern lithographic offset printing is a combination of the camera and the offset printing press, the work being photographed onto the offset press plate from which the edition is subsequently printed. Layout and composition are very intimately related with the requirements of photographic proceedure and technique in preparing the original "copy," its text, illustrations and decoration in one or more colors, the conditions being quite different yet similar to planning the same job for the letterpress. In preparing the text for a page, folder or booklet, the type matter at present is set up by the typographic compositor in the time-honored way and all the offset printer requires is one good first-class proof on good paper from this type matter as "copy" for the camera. Any worn, nicked or defective type in this text will be far more noticeable in the offset printed product than this same type would look printed via letterpress.

Another feature is the possibility of alterations or corrections in this text matter on the offset plate. This means prac-

*Photo-Mechanical Expert, Buffalo, New York.

tically starting from scratch and making that plate over, as defective type is very difficult to repair on an offset plate. There is no such thing as making corrections or repairs in an offset "form" as is common practice in typographic printing. Consequently, all text matter should be set in type as mechanically perfect as possible. There are a few lithographic offset printers who specify that text matter be set in new type to insure as perfect a proof as possible to serve as copy for their cameras.

Where line drawings provide the decorations and many of the illustrations accompanying the text, there is considerable improvement possible in the preparation of the black and white drawings. They should be made with black drawing ink on suitable bristol board with all lines (both coarse and fine) really black. Many line drawings have a very effective appearance due to the fine lines being gray instead of black. In reproducing such drawings these thin gray lines become black on the offset plate with the result that the light and shade effect in the original is lost in the reproduction method that cannot reproduce gray but only recognizes black and white. Here again we encounter the mechanics involved in preparing line drawings suitable for reproduction in black and white on the offset press.

1935 REFERENCE NUMBER COPIES FOR SALE

Those wishing one or more copies of the 1935 Printing and Equipment Supplies Reference Number of *Printing* EQUIPMENT *Engineer* can obtain them by sending 35c for each copy to cover costs and postal charges.

Photographs form the principal source of illustration on the printed page. In their reproduction the gradations of light and shade are transposed into dots of varying sizes in the same way as letterpress halftones are produced, *i. e.*, by copying the photograph through a halftone screen in a camera. There is no such thing as re-etching, burnishing, tooling or fixing defective spots on the offset plate as can be done readily on a letterpress halftone plate. For this reason, all photographs and wash drawings require more care in preparation for offset halftone reproduction than for letterpress halftones in order to obtain the best possible results on the offset press proof. There are several methods of "dot etching" in the process of offset platemaking, but the application is somewhat indirect, so the better the original picture the better will be the offset halftone by direct methods of offset platemaking.

Good original copy is half the battle in producing satisfactory offset printing. Offset plate making is a chemical process and offset printing is more a chemical than a mechanical proceedure. Chemical processes depend more on human guidance than mechanical processes for consistent satisfactory production. In a chemical process some of the most important reactions by which the process functions, are invisible to the human eye and very often only a slight deviation in the chemicals or their handling, is the difference between success and grief in offset plate-making and printing, which brings us right back to where we began, that the greater our knowledge about the fundamental principles that make the wheels go round in the offset process, the less chance for failure and the more certain profitable production.

Printing Equipment Association Meeting

THE first annual meeting of the National Printing Equipment Association, Inc., was held at the Palmer House, Chicago, Ill., October 17.

The principal business to come before the meeting consisted of the election of director's reports of officers, action upon proposed amendments to the by-laws and consideration of a plan for printing machinery value determination.

The re-elected officers are: Arthur Bentley, president; Thomas R. Jones, vice president; Joseph T. Mackey, treasurer; aJmes E. Bennet, secretary; and George H. Snyder, assistant secretary-treasurer. Fred S. Tipson, secretary-treasurer of the T. W. & C. B. Sheridan Co., New York, N. Y., and Walter A. Sittig, secretary-treasurer of H. B. Rouse & Co., Chicago, Ill., were elected directors of the association for a term of three years to succeed LeGrand L. Clark and James E. Bennet who did not wish to be renominated.

The latest method of value determination for printing machinery as suggested by officials of the NRA was discussed and approved without a dissenting vote. It is expected that it will be approved speedily in Washington, after which copies will be distributed to all members of the printing industry and trade. It was announced that the Code Budget was signed in Washington late in the afternoon of October 16. Copies of the reports of the officers were ordered printed and sent to all members. The by-laws were amended to increase the proportionate voting power of the smaller units in the industry.

Association dues were reduced to not more than $9.00 per year per unit of ten employees for full membership and to not more than $1.00 per employe for associate members.

A Proposal to Offset Slurs Against Advertising

AN EXTENSIVE newspaper advertising campaign to explain to the public the economic and social value of advertising was proposed recently by J. T. Mackey, executive vice-president of the Mergenthaler Linotype Company, in a prospectus mailed to every newspaper in the country.

In commenting on the plan, Mr. Mackey said: "Substantial business recovery can come only through increased consumer buying, and one reason people don't buy can be found in the sweeping slurs that have been directed against advertising by a few well-meaning critics. It is time to answer the critics who are destroying public confidence in all advertising through their efforts to correct a few abuses. The public has been told not only that advertising is untruthful, but that it is an economic waste. Advertising's usefulness to the buyer must be dramatized so that people can understand it as readily as they have understood the dramatic attacks that have been directed against it."

The prospectus included several examples of the type of copy that would be used. All the advertisements shown are based on simple incidents, common to the experience of any reader, and tell their story in short, non-argumentative copy. A method was suggested whereby the costs of the proposed campaign would be shared by newspapers and the equipment and supply firms from which they purchase machinery, paper, ink and other supplies. It was stated, however, that this was not presented as a finished plan but only as a basis of discussion by the various interests concerned.

The plan of the proposed campaign and the suggested advertisements were developed by Mr. Mackey in collaboration with Kenyon & Eckhardt, Inc., Advertising Agency, New York, N. Y.

TRADE LINOTYPE MARK

THE COMPLETE SYSTEM

5 POINT TO

144 point

MERGENTHALER

LINOTYPE

COMPANY

BROOKLYN

NEW YORK

TRADE LINOTYPE MARK

Fifth Annual Conference

Of Printing Industries Division, A. S. M. E., Most Interesting—Printing Research Institute Organized

By MILTON E. HANSON*

THE Fifth Annual Conference of the Printing Industries Division of the American Society of Mechanical Engineers was held in Philadelphia, October 8 and 9, 1934.

The meeting was arranged and conducted under the auspices of the Philadelphia local section headed by Prof. George E. Crofoot, chairman; J. P. Harbeson, secretary-treasurer; W. F. Oberhuber, vice-chairman; and Messrs. C. C. Jones, E. H. Hopping, C. H. Coogan.

*Mechanical and Chemical Engineer, Collingswood, New Jersey.

This ancient press is housed in the graphic arts exhibit at the Franklin Institute in Philadelphia. It is said to be the one on which Benjamin Franklin himself worked. The photo was taken during the Fifth Conference of the Technical Experts in the Printing Industry, held in Philadelphia on October 8 and 9. This was also the organization meeting of the Graphic Arts Research Bureau. From left to right are:

John Clyde Oswald, New York—chairman of the Printing Industries Division of The American Society of Mechanical Engineers and the presiding officer of the organization meeting of the Graphic Arts Research Bureau.

Arthur C. Jewett, Pittsburgh—former Director of the College of Industries, Carnegie Institute of Technology, but now connected with the Regional Labor Board; chairman of the Research and Survey Committee of the Printing Industries Division, and the newly-chosen Chairman of the Graphic Arts Research Bureau.

Lewis W. Trayser, Philadelphia—Assistant Superintendent, Manufacturing Department of the Curtis Publishing Company; Assistant Chairman of the Philadelphia Local Arrangements Committee of the Fifth Technical Conference, and the newly-chosen Vice-Chairman of the Graphic Arts Research Bureau.

Edward Pierce Hulse, New York City (holding the ink balls)—Secretary of the Printing Industries Division, A. S. M. E.

V. Winfield Challenger, Philadelphia—Director of Printing, N. Y., N. W. Ayer & Son, Inc.; member of the Philadelphia Local Arrangements Committee of the Fifth Technical Conference, and the newly-chosen Secretary-Treasurer of the Graphic Arts Research Bureau.

Many of those in attendance considered this meeting the most interesting of any of the conferences held so far and compliments were not lacking for the good work done by the Philadelphia Committee on Arrangements, which was composed of Walter D. Fuller, chairman, First Vice-President and Secretary, The Curtis Publishing Co.; Lewis W. Trayser, vice-chairman, Assistant Superintendent, The Curtis Publishing Co.; Joseph S. Pecker, secretary, Chief Engineer, Machine and Tool Design Co.; William R. Maull, Vice-President, Dill & Collins, Inc., also Chairman, Paper and Pulp Committee, Printing Industries Division, A. S. M. E.; V. Winfield Challenger, Director of Printing, N. W. Ayer & Son, Inc., also Secretary of the Philadelphia Club of Printing House Craftsmen; William Meeks, Manager, Philadelphia Typothetate; and H. S. Harris of the Franklin Institute.

The members of the local section of the A. S. M. E., the Philadelphia Engineers Club, the United Typothetae of America and the Philadelphia Club of Printing House Craftsmen served as joint hosts to make the visit of out-of-town member a pleasant experience.

The meetings were especially well attended, well over two hundred being present to hear the interesting papers and participate in the discussions. Visiting members were present from distant points including Canada.

The program for the first day started off with an inspection trip through the plant of The Curtis Publishing Co., publishers of the *Saturday Evening Post, Ladies' Home Journal* and *Country Gentleman*. This is one of the largest magazine printing establishments in the world, employing many high-speed continuous web and sheet-fed four-color presses of the Cottrell and Hoe types. Members of the printing fraternity unable to attend this meeting would do well to visit this plant any time when in Philadelphia as visitors are conducted through the plant daily.

The afternoon and evening sessions at which papers were read and discussed was held in the Ball Room of the Benjamin Franklin Hotel. The sessions were marked by the usual get-together luncheon and dinner.

The program commenced the second day with a morning session and an inspection trip through the Lanston Monotype Machine Company's plant, after which a buffet luncheon was served. Here some of the finest printing machinery may be seen accomplishing art work of the highest and most advanced character. The visit was most instructive.

The afternoon session was held at the Franklin Institute where the remainder of the papers on the program were read and discussed.

PAPERS ON THE PROGRAM

The papers on the entire program consisted of:

"The Photomechanics of Color Photography," by Harry A. Groesbeck, Art Director, Country Life-American Home Corporation.

"Synthetic Resins as a Process Roller Material," by A. L. Freedlander, Vice-President, The Dayton Rubber Mfg. Co.

"Rubber Plates for Letterpress Printing," by Messrs. Ralph Schwartz, President, and J. Homer Winkler, Ace Electrotype Co.

"Observations on the Technology of Rubber Plate Manufacture," by W. J. Ruscoe, Technical Representative, The B. F. Goodrich Co.

"Recent Developments in Offset Printing," by Burt D. Stevens, Vice President, The Miehle Printing Press and Mfg. Co.

"Photomechanical Reproduction of Offset Plates," by W. C. Huebner, The Huebner Laboratories.

"From Design to Type—Processes in the Manufacture of Monotype Matrices," by Sol Hess, Art Director, Lanston Monotype Co.

"A Comparison of the Reproductive Quality of Aquatone and Other Printing Processes," by Maurice N. Weyl, President, Edward Stern Company.

"New Developments in Color Rotogravure Printing," by G. A. Fries, Supt., Artgravure Dept., *The News*, New York, N. Y.

"The Printing of Metal Paper," by R. E. Hunt, Service Engineer, Reyonlds Metal Company.

Continued on page 120

Printing EQUIPMENT *Engineer*

1935

Equipment and Supplies Reference Number

MANUFACTURERS' INDEX

For the Printing Equipment and Supplies Trade

To the Production or Mechanical Executive:

In the following pages will be found an alphabetical index of printing equipment and supplies manufacturers which is as complete and representative as it is possible to make it.

This Manufacturers' Index has been compiled without charge to the manufacturer for *your* convenience, as well as for the convenience of the membership of the National Printing Equipment Association, Inc., and other manufacturers and suppliers to buyers in the printing industry. Consult the Index often and use it freely.

Following this Manufacturers' Index in another section will be found an alphabetical Products Index, which is comprised of machinery and supplies listings under one or more classified headings, with the names and addresses of the companies manufacturing or supplying the products under each suitable heading.

In this Manufacturers' Index we have listed the company name, street address and city, together with a general indication of the major products made by each company.

This Index includes a complete register of all manufacturers and dealers subject to the Code for the Printing Industry and Trade. Each listing preceded by an asterisk (*) indicates that the company so marked is either a member of the National Printing Equipment Association, Inc., or is subject to the Code for the Printing Industry and Trade. There are exceptions, however, in the manufacturers' listings in that a few of the companies listed are dealers in and movers of machinery, but are also members of the National Printing Equipment Association, Inc.

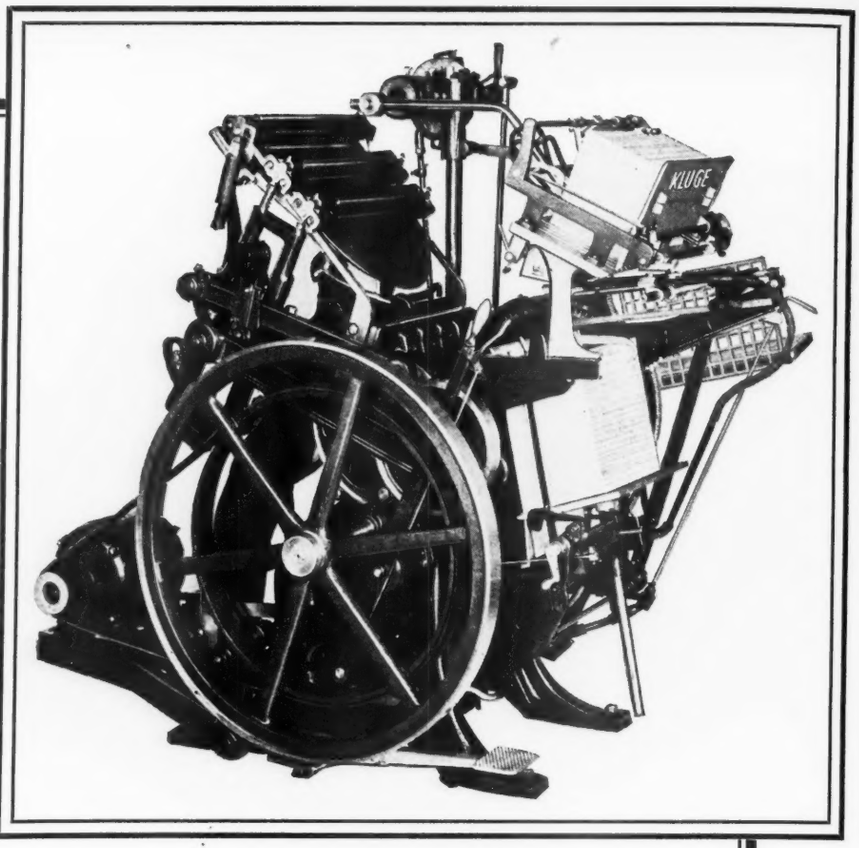
All of the companies listed in the Manufacturers' Index are not subject to the jurisdiction of the Code for the Printing Industry and Trade. The ink manufacturers, for instance, operate under their own Code as do the paper makers and printing metals manufacturers and are not so indicated.

As will be obvious, the name of each manufacturer advertising in this issue of *Printing* EQUIPMENT *Engineer* has been set in bold face together with the page number upon which the advertisement appears.

Every effort has been made to obtain the names of all printing equipment manufacturers and supplies to the printing industry and care has been used in compiling the information as submitted to us, yet at the same time we cannot be responsible for errors or omissions.

—*Editor.*

BOLD CLAIMS and CLEVER PHRASES ARE NOT ENOUGH



— unless backed by unquestionable evidence of their truth. This has been proved by the accelerated sales of the *New Kluge Automatic Press* wherever it has been demonstrated or seen in action by printers who have "heard of it."

Satisfied users, the country over, are constantly telling us that our claims for this machine are too conservative. We would rather have it that way than make claims which could not be more than substantiated.

The great success attained by the New Kluge is largely due to the fact that it has achieved what the printer has always thought was impossible in the platen type of press: Distribution, Speed and Impressional Strength. These main factors in good printing have not only been attained, but consolidated with the best of materials and scientific workmanship.

We now conservatively claim that the New Kluge is superior to any other press of its size, and challenge denial of these statements by actual proof.

Brandtjen & Kluge, Inc., Mfrs., St. Paul Minn.

BRANCHES WITH OPERATING EXHIBITS

NEW YORK.....77 White Street	DETROIT.....1051 First Street	ATLANTA...150 Forsyth Street, S. W.
PHILADELPHIA ..253 N. 12th Street	CHICAGO.....106 W. Harrison Street	SAN FRANCISCO.451 Sansome Street
BOSTON.....27 Doane Street	ST. LOUIS.....2226 Olive Street	LOS ANGELES ...1232 S. Maple Ave.
	DALLAS.....217 Browder Street	

A

*A.B.C. Printing Machinery Co., 564 W. Randolph St., Chicago, Ill. Dealers in used machinery.

***ABRAMS, M. L., 1639 Superior Ave., Cleveland, Ohio. Dealers in new and used machinery 77**

*Academy Rule Shop, 89 Academy St., Newark, N. J. Dealers in metal rule, type, leads, and borders.

ACE BELTING CO., 4300 Washburn Ave., N., Minneapolis, Minn. Cord-rubber line-casting machine belts 29

*Ace Printers Machinery Co., Inc., 154 W. 26th St., New York, N. Y. Dealers in used machinery.

Acheson Ink Co., Inc., 142 Skillen St., Buffalo, N. Y. Letterpress and lithographic inks.

Acme Electric Heating Co., 1217 Washington St., Boston, Mass. Glue pots, air heaters, matrix platens, embossing plates and gilding wheels.

*Acme Press Blanket Co., 117 N. Wells St., Chicago, Ill. Mfrs. of blankets, vibrators, brackets and roller distributors.

*Acme Printing Appliance Co., 333 S. Clinton St., Chicago, Ill. Mfrs. of sheet heaters, roller trucks, vibrating distributors, fountain dividers, and other attachments.

Acme Printing Ink Co., 1315 W. Congress St., Chicago, Ill.

Acme Staple Co., 1643 Haddon Ave., Camden, N. J. Saddleback stapling machines.

*Acme Wood Type Mfg. Co., 61 Beekman St., New York, N. Y. Mfrs. of wood type.

*Adams, John J., 35 S. Gay St., Baltimore, Md. Agency for Baum folders.

Advance Mfg. Co., Inc., 350 N. 26th St., Louisville, Ky. Air and paper conditioning equipment.

*Advance Printers Machine Shop, 721 S. Dearborn St., Chicago, Ill. Machinists — repairing.

*Ajax Safety Quoin Mfg. Co., 874 Broadway, New York, N. Y. Mfrs. of quoins under contract.

Albemarle Paper Mfg. Co., The, Box 2189, Richmond, Va. Blottings, cover paper and specialties.

*Alexander & Cox, 2358 Ogden Ave., Chicago, Ill. Mfrs. of type moulds.

*Allied Printing & Binding Machinery Co., 1975 E. 65th St., Cleveland, O. Dealers in new and used machinery — repairing.

*"All-Ready" Dies, The, 56 E. 66th St., New York, N. Y. Mfrs. of sandpaper type high planer.

American Adjustable Lockup Co., Torrington, Conn. Lockup type chases.

American Blower Corp., 6000 Russell St., Detroit, Mich. Air and paper conditioning equipment.

*American Machine & Mfg. Co., 425 Folsom St., San Francisco, Calif. Mfrs. of sales book machinery — machinists.

*American Mfg. Concern. See Hammond Machinery Builders.

American Matrix & Plate Co., Inc., 228 E. 45th St., New York City. Trade mats and stereos.

*American Numbering Machine Co., 224 Shepherd Ave., Brooklyn, N. Y. Mfrs. of numbering machines.

*American Printers Machine Co., 12 S. Clinton St., Chicago, Ill. Machinists.

*American Printers Supply Co. See American Steel Chase Co.

*American Printing Machinery Co., Penn Ave. at Water St., Pittsburgh, Pa. Dealers in used machinery.

AMERICAN PUBLISHERS SUPPLY, P.O. Box 131, West Lynn, Mass. Scorching machines, stereotype, press-room and scorcher supplies, autoplate and composing-room accessories 14-15

*American Steel Chase Co., 122 Centre St., New York, N. Y. Mfrs. of chases, saws, trimmers, trucks, rules, galleys, cutters, mitering machines — Dealers.

American Transfer Paper Co., 1759 Sunnyside Ave., Chicago, Ill. Prepared India transfer paper.

*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J. Mfrs. of printing presses, parts and type, stitchers, cutters, etc. Dealers in printers' supplies and equipment.

American Type-O-Writer Co., Ltd., 212 N. Chevy Chase Dr., Glendale, Calif. Typewriter keyboard for linotypes and intertypes.

*American Wood Type Mfg. Co., 270 Lafayette St., New York, N. Y. Mfrs. of wood type.

American Writing Paper Co., Inc., Holyoke, Mass. Bond, linen, ledger, writing, bristol, book, offset, cover, wedding, papeterie and greeting card papers.

American Zinc Products Co., Greencastle, Ind. Zinc litnographic and engravers' plates.

*Ammon & Co., H., 95 Cliff St., New York, N. Y. Machinists.

*Anderson Bros., 710 S. Clark St., Chicago, Ill. Repairing — erecting — machinists.

*Anderson & Co., C. F., 3225 Calumet Ave., Chicago, Ill. Mfrs. of trucks, folders and binding machinery, binding and bundling presses.

*Anderson Machinery Co., C. L., 2256 W. Walnut St., Chicago, Ill. Machinists — repairs and service.

*Anderson & Sons, A., 218 W. Kinzie St., Chicago, Ill. Repairing and rebuilding — rotary and flat-bed presses and paper box machinery to order.

Angle Steel Stool Co., Inc., 820 N. Oak St., Plainwell, Mich. Composing-room steel furniture.

*Arnold's Numbering Machine Works, 9 N. Franklin St., Chicago, Ill. Dealers and repairers of numbering machines, eyelet, stapling and punching machines.

*Artman & Meyers, 21 S. 9th St., St. Louis, Mo. Dealers in machinery and supplies.

Athol Mfg. Co., Athol, Mass. Artificial leather and cloths for bookbinding.

Atkins & Co., E. C., 402 S. Illinois St., Indianapolis, Ind. Paper knives and slitters, cutting, scoring and perforating rule, saws, files and ozokerite.

ATLANTIC ZINC WORKS. See Rolled Plate Metal Co. 119

Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill. Engravers' arc lamps, plate whirlers and vacuum frames.

*Automatic Furnace Co., 112 Coarlton St., New York, N. Y. Mfrs. of type melting furnaces. Distributors.

*Automatic Printing Devices Co. See Paul J. Barnard.

*Automatic Printing Equipment Co., 407 S. 4th St., Minneapolis, Minn. Dealers in multicolor presses, Little Giant printing presses and offset presses and other machinery (Webendorfer-Wills).

*Automatic Saw Sharpening Co., 735 E. Onio St., Indianapolis, Ind. Sharpens saws for newspaper publishers — metal comp. room — dealers in new equipment — routers.

*Auto Sheet Metal Works, Inc., 6106 S. Avalon Blvd., Los Angeles, Calif. Mfrs. of composing-room steel furniture, tables, type and galley cabinets.

*Automatic Stapler Co., Inc., St. Clair Bldg., Chicago, Ill. Mfrs. of automatic stapler.

B

*Babcock Printing Press Mfg. Co., 38 Pequot Ave., New London, Conn. Mfrs. of cylinder presses, automatic job presses, rotary color presses, cutting and creasing machines.

*Bachmann & Kicker Machine Co., 203 Market St., St. Louis, Mo. Repairers and rebuilders — Builders of machinery on special order.

*Backert, J. E., 257 Front St., New York, N. Y. Repairer of linotype machines.

*Bader-Temmen Co., The, 1421 Central Pkwy., Cincinnati, Ohio. Builders of special machinery.

Baer Bros., 438 W. 37th St., New York, N. Y. Bronze and varnish department. Dusting and ink bronzes and ink varnishes.

*Baird Corp., Harry, 417 N. State St., Chicago, Ill. Type founders.

*Baker Machine Co., A. F., 142 Oliver St., Boston, Mass. Repairers — dealers in new and used machinery.

*Bakke, L. A., 701 S. Washtenaw Ave., Chicago, Ill. Mfrs. of special machinery for printers, lithographers and box makers — repairs and general machinist.

*Baltimore Type & Composition Corp., 15 S. Frederick St., Baltimore, Md. Mfrs. of type.

*Barager, M. F., 6523 20th Ave., N. E., Seattle, Wash. Dealer in typesetting machinery, parts and supplies.

*Barhydt, Clarence, 501 Graphic Arts Bldg., Kansas City, Mo. Dealer in printers' supplies.

*Barnard, Paul J., 1600 Junction Ave., Racine, Wisc. Mfrs. of embossers and card printing presses.

*Bauer Type Founders Co., Inc., 235 E. 45th St., New York City. Dealer — wholesale distributor of German type.

*Baum Folder Agency. See John J. Adams.

*Baum, Russell Ernest, 615 Chestnut St., Philadelphia, Pa. Mfrs. of folding machines. Dealer in folding machines, feeders and presses.

Bausch & Lomb Optical Co., Rochester, N. Y. Magnifiers and microscopes.

*Beall, James I., 115 S. Union St., Akron, O. Dealer in printers, binders and box making machinery.

*Beckett, George P., 1554 N. Clark St., Chicago, Ill. Dealer in new and used machinery.

Beckett Paper Co., The, Hamilton, O. Covers, book and offset papers.

BEHR-MANNING CORP., Troy, N. Y. Press blankets and draw sheets 92

*Bekkevold, August, 19 Ann St., New York, N. Y. Repairs and cleans numbering machines. Mfrs. special machines to order.

Belmont Smelting & Refining Works, Inc., 318 Belmont Ave., Brooklyn, N. Y.

Ben Day, Inc., 118 E. 28th St., New York. Factory, Summit, N. J. Shading machine equipment, etching ink and gamboge.

*Benson & Co., W. B., 1018 Douglas St., Omaha, Neb. Dealers in new and used machinery, repairs and rebuilds.

Berger Mfg. Co., The, Canton, O. Steel office and filing furniture.

*Berry Machine Co., 716 N. First St., St. Louis, Mo. Mfrs. of round hole cutting machine, paper lifts attached to presses, pneumatic book presses. Machinists. Repairers.

BINGHAM BROS. CO., 406 Pearl St., New York City 83

Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, O. Seasonal composition rollers, all-season rollers and padding glue.

Bingham's Son Mfg. Co., Sam'l., 636 Sherman St., Chicago, Ill. Composition, rubber, canvas-covered, graining, offset, lithograph, varnish and lacquer rollers.

BLACK CROSS METAL CLEANSER CO. 129

BLACK ROCK MFG. CO., Bridgeport, Conn. Rubber roller grinders and polishers, and roller gauges 21

*Blank & Schneider Co., 143 E. 3rd St., Cincinnati, O. Dealers in machinery. Repairs and service.

BLATCHFORD CO., E. W., 63 Park Row, New York, N. Y. Mfrs. of plate mounting bases, pin catches, ratchet catches, printing metals and fluxes 4

*Blomquist, Carl, 714 S. Dearborn St., Chicago, Ill. Machinist.

BOBEMETER MFG. CO., 1730 Standard Bank Bldg., Cleveland, O. Bobemeter for gauging stereo plates 26

BOOTH, THE E. A., RUBBER CO., 364 Rockefeller Bldg., Cleveland, O. Rubber rollers and gloves printers' cut cement and engravers' rubber cement 88

*Booton & Co., C. H., 304 Second Ave., Gallipolis, O. Mfrs. of automatic register for platen presses.

*Boston Wire Stitcher Co., Division St., E. Greenwich, R. I. Mfrs. of wire stitchers, staples and stapling machines.

BOURGES SERVICE, INC., 175 Fifth Ave., New York City. Artist Shading sheets 114

*Brackett Stripping Machine Co., 505 Jackson St., Topeka, Kans. Mfrs. of stripping machines and safety trimmers.

Braden-Sutphin Ink Co., The, 1736 E. 22nd St., Cleveland, Ohio. Printing, litho-offset, water color inks, varnishes and driers.

*Brandl, W., 213 Austin Ave., Chicago, Ill. Machinist.

***BRANDTJEN & KLUGE, INC., Gaultier at Como Ave., St. Paul, Minn. Mfrs. of automatic platen presses and feeders 46**

Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill. Portable blowers and cleaners.

*Brintnall Co., Harry W., 51 Clementina St., San Francisco, Calif. Dealers in machinery and supplies for printers and book binders.

Bristol Co., The, Waterbury, Conn. Temperature and humidity recording devices.

*Brooklyn Printers Exchange, 35 York St., Brooklyn, N. Y. Dealers in used machinery and equipment.

Brown Co., 404 Commercial St., Portland, Me. Bond, ledger, bristol, cover and offset paper.

Brown Co., L. L., Adams, Mass. Ledger, linen and bond papers.

*Brown Folding Machine Co., 18th and German Sts., Erie, Pa. Mfrs. of folding machines.

Brown & Sharpe Mfg. Co., Providence, R. I. Paper gauge micrometer and tools for the printing machinist.

Bryant Paper Co., Kalamazoo, Mich. Offset, book and coated papers.

Buffalo Forge Co., 490 Broadway, Buffalo, N. Y. Air conditioning equipment.

Bunn Co., B. H., Vincennes Ave. at 76th St., Chicago, Ill. Tying and bundling equipment.

*Bultman & Co., 10271 Berea Rd., Cleveland, O. Mfrs. of special machinery. Repairs and rebuilds.

BURGESS CELLULOSE CO., Freeport, Ill. Stereotype dry mats 115

Burrage, Robert R., 15 Vandewater St., New York, N. Y. Padding and bookbinding glue.

*Burton Co., A. G., See Nygren-Dahly Co.

Business Men's Paper Press Co., Wayland, Mich. Paper balers.

Byron Weston Co., Dalton, Mass. Bond and ledger papers.

C

*California Printers Supply Co., 407 E. Pico St., Los Angeles, Calif. Dealers in new and used presses, machinery, etc., and type.

Callaway Mills, 295 5th Ave., New York City. Wiping towels.

Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y. Paper slitting and winding equipment.

*Campbell, James, 154 Nassau St., New York, N. Y. Repairs linotype molds and liners. Dealer in linotype parts and composing-room supplies.

*Campbell Printing Press, 118-18-199th St., St. Albans, N. Y. Dealers in printing press parts; printers' machinists.

Carlson, John P., Inc., 420-428 Carroll St., Brooklyn, N. Y. Letterpress, litho, offset and water color inks.

Carpenter-Tew Gear Co., 67-87 35th St., Brooklyn, N. Y. Gears, plate stops and wipers for stereotype machines; printing press gears.

*Casper Gripper Co., 357 Bangor Bldg., Cleveland, O. Grippers for job presses.

Cavagnaro, John J., 5th, Essex and Sixth Sts., Harrison, N. J. Roughing machines.

Central Machine Works, 437 S. Senate Ave., Indianapolis, Ind. Paper roll trucks.

*Central Printing Machine Co., 114 Olive St., St. Louis, Mo. Repairers of printing machinery and general macninist.

*Central States Printers Exchange, 300 First Ave., Peoria, Ill. Dealer in used machinery and supplies.

Century Electric Co., 1806 Pine St., St. Louis, Mo. Electric fans and motors.

CERTIFIED DRY MAT CORP., 342 Madison Ave., New York City. Stereotype dry mats 25

*Challenge Machinery Co., Fulton Ave. and Beech Tree St., Grand Haven, Mich. Mfrs. of presses, cutters, drillers, routers, punches, knives, cabinets, motors, iron furniture, etc.

*Chambers Bros. Co., 52nd and Media Sts., Philadelphia, Pa. Mfrs. of feeders for folding machines, folding machines, varnishing machines.

*Chambon Corp., 911 New York Ave., Union City, N. J. Rotary printing presses built to order.

Champion Coated Paper Co., The, Hamilton, O. Coated and uncoated papers, cardboards and bristol,s bonds, writing and Kraft wrapping.

***CHANDLER & PRICE CO., 6000 Carnegie Ave., Cleveland, O. Mfrs. of printing presses and paper cutters 24**

CHANNING, ALFRED W., St. Albans, New York City. Remelting furnaces and composing machine metal feeders 128

*Chapman Sales & Mfg. Co., 112 N. 3rd St., St. Louis, Mo. Dealers in used machinery. Repairers.
*Charnock Co., 160 Ellicott St., Buffalo, N. Y. Dealers in printing machinery, type and supplies. Machinists.
*Chemco Photo-Products, Inc., Glen Cove, L. I. Mfrs. of photo-engravers' supplies.
Cheshire Mailing Machines, 1016 N. Dearborn St., Chicago, Ill. Dick mailing machines.
*Chicago Grinding & Machine Co., 2117 Tilden St., Chicago, Ill. Knife grinders and dealers in knives.
*Chicago Lino Maintenance Co., 564 W. Randolph St., Chicago, Ill. Dealers and repairers of linotypes.

***CHICAGO LINO-TABLER CO., 53 W. Jackson Blvd., Chicago, Ill. Control patents for Lino-Tabler multiple broach 94**

*Chicago Paper Box Machine Works, Inc., 2059 Emerson St., Chicago, Ill. Dealers in new and rebuilt paper box machinery.
*Chicago Printers Machinery Works, 609 W. Lake St., Chicago, Ill. Dealer in new and used machinery and supplies. Repairer.
Chicago Roller Co., 554-570 W. Harrison St., Chicago, Ill. Composition, rubber, lithographic and offset rollers.
*Chicago Type Foundry, 553 S. Clark St., Chicago, Ill. Mfrs. of type.

CHICAGO WHEEL & MFG. CO., 1103 W. Monroe St., Chicago, Ill. Portable routers and grinders 112

Chicago Steel & Wire Co., 103rd St. and Torrence Ave., Chicago, Ill. Bookbinding and box-making wire.
*Christensen Machine Co., The, 100 Fourth St., Racine, Wisc. Mfrs. of paper feeders for presses, folders and sheet fed machines, bronzers, heaters and stitchers.
*Clark, E. C., 3630 Bloomington Ave., Minneapolis, Minn. Mfrs. and dealer in grippers.
*Clark Mfg. Co., 53 Washington St., New York, N. Y. Mfrs. of knives, circular cutters, steel chases for printers, book binders and box makers.

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc. Mfrs. of printing machines and plate making equipment 22**

Clean-A-Press Machine Co., 821 3rd St., Des Moines, Ia. Offset roller cleaning attachment.
*Cleveland Folding Machine Co. See Dexter Folder Co.

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill. Mfrs. of reel and tension machinery and equipment 99**

*Cochrane-Bly Co., 15 St. James St., Rochester, N. Y. Mfrs. of offset presses.
Coffing-Hoist Company, 313 E. Van Buren St., Danville, Ill. Metal feeder for intertypes and linotypes.
*Cohen, Sam, Machine Shop, 121 Greene St., New York, N. Y. Dealer in used paper box machinery.
*Collin, Herbert L., 52 Beekman St., New York, N. Y. Dealer in used machinery and composing room equipment. Importer of foreign type.
Collins Mfg. Co., North Wilbraham, Mass.
Collins Mfg. Co., A. M., 226-240 Columbia Ave., W. Philadelphia, Pa. Chalk overlay for press make-ready; book and cover papers and cardboards.
*Conner, Charles S., 2225 Lake Ave., Baltimore, Md. Dealer in used machinery. Agent for English mfr. of knives.
*Conn & McGuire Machine Co., Delphi, Ind. Mfrs. of Mat Maker.
*Continental Mfg. & Sales Co., 220 W. Kinzie St., Chicago, Ill. Dealers in new and used machinery. Repairers, machinists.
*Continental Type Founders Assn., 228 E. 45th St., New York, N. Y. Mfrs. of type. Importers of foreign type.
*Coombs Co., Ralph G., 14 Lisbon St., Lewiston, Me. Dealer in machinery and supplies.
*Cornell & Everett, 714 Baltimore Ave., Kansas City, Mo. Dealer in used machinery and type.

***COTTRELL, C. B. & SONS CO., P.O. Drawer No. 515 Westerly, R. I. Mfrs. of rotary web magazine presses, sheet fed rotary presses, roll feed bag presses, proof presses; electrotype and stereotype machinery, cutting and creasing presses 64-65**

Covel-Hanchett Co., Big Rapids, Mich. Paper slitting knife grinders, knife balances and saw sharpeners.
*Craftsman Line-Up Table Corp., 49 River St., Waltham, Mass. Mfrs. of line-up tables.
*Craftsman Machinery Co., 287 Atlantic Ave., Boston, Mass. Dealers and repairers of used machinery.
*Craig Sales Corp., 636 Greenwich St., New York, N. Y. Mfrs. of devices to eliminate offset, printing and automatic gas attachment.
*Crawley Book Machinery Corp., 328 Keturah St., Newport, Ky. Mfrs. of bookbinding machinery.
Crescent Ink & Color Co. of Pa., 464 N. Fifth St., Philadelphia, Pa. Letterpress, litho and offset inks, varnishes and driers.
*Croke Co., Inc., Allan B., 44 Brookline St., Cambridge, Mass. Dealers in engravers and lithographers supplies.
Crocker-McElwain Co., Chemical Paper Mfg. Co., Holyoke, Mass. Bonds, covers, drawings, folding box-board, ledgers, offset, onion skins and writings.

CROMWELL PAPER CO., THE, 4801-21 S. Whipple St., Chicago, Ill. Mfrs. of Tympan Paper 113

*Cross Paper Feeder Co., 185 Summer St., Boston, Mass. Mfrs. of press feeders and folders.
*Cummins & Martin, 245 Seventh Ave., New York, N. Y. Machinists. Repairs and service.
*Cunningham, M. A., 297 Atlantic Ave., Boston, Mass. Dealers in used machinery. Repairs.
*Curle Mfg. Co., 500 Sansome St., San Francisco, Calif. Mfrs. of parts for printing machinery, parts and repairs for linotype machines. Repairs.
*Cushman Electric Co., 69 S. Main St., Concord, N. H. Mfrs. of motor for typecasting machines, routing machines and heads.
Cutler-Hammer, 542 N. 12th, Milwaukee, Wisc. Electric switches and controls for printing machinery.

D

Damon Type Foundry, See New Jersey Type Foundry.
*Damon Type & Printing Supply House, 56 Beekman St., New York, N. Y. Dealers in type and printers' supplies.
*Davidson Perforator Corp., 7157 68th Pl., Glendale, Brooklyn, N. Y. Mfrs. of perforators, scorers and slitters for presses.
*Davis & Kravet, 189 High St., Boston, Mass. Dealers and repairers of used machinery.
Dayton Rubber Mfg. Co., The, Dayton, O. Printing press ink rollers.
*Dearborn Type Foundry, 2101 W. Van Buren St., Chicago, Ill. Mfrs. of type and matrices.
*DeGenero, Frank, 204 Greene St., New York, N. Y. Machinists, repairs.
*Des Moines Printers Exchange, Inc., 214 Second St., Des Moines, Ia. Dealers in machinery and supplies.
Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich. Paper cutting and specialty knives.
*Detroit Numbering Machine Co., 535 Bates St., Detroit, Mich. Dealers and repairers of numbering machines. Mfrs. of rubber stamps.
*Dexter Folder Co., 28 W. 23rd St., New York, N. Y. Mfrs. of folding machines, sheet feeders, inseting machines, Cross feeders and Christensen stitcher feeders, bundling presses and trimmers.
*Dickinson, C. W., Jr., 321 Cortland St., Belleville, N. J. Mfrs. of banknote machinery.
Dick's Patent Mailer, 137 W. Tupper St., Buffalo, N. Y. Mailing machines.
*Dietrich Products Co., 2734 Sidney St., St. Louis, Mo. Dealers in ruling machines, ink and supplies.
*Dietzgen Co., E., 2425 Sheffield Ave., Chicago, Ill. Mfrs. of offset plate making equipment.
*Dilkes & Co., C. E., 6 Dawson St., Newark, N. J. Mfrs. of small printing machine for printing letters on cards. Machinery and supplies.
Dill & Collins, Inc., Richmond and Tioga Sts., Philadelphia, Pa. Book, offset, writing, cover, music and specialty papers.
*Diller Machinery Co., 147 W. 26th St., New York, N. Y. Dealers and repairers of used machinery.
Division Lead Co., 836 W. Kinzie St., Chicago, Ill. Composing and stereotype metals.
Dixon, Joseph, Crucible Co., Jersey City, N. J. Mfrs. of electric sheet heaters, vacuum sheet cleaner, ink distributor and vibrating rollers.
*Dixon Co. See Automatic Saw Sharpening Co.
Dixon & Co., Norval H., 345 Poplar Rd., Indianapolis, Ind. Parts and supplies for intertypes and linotypes.
*Dodson Printers Supply Co., 231 Pryor St., S. W., Atlanta, Ga. Dealers in new and used machinery and supplies.
Doepel Co., J. E., 621-623 Cherry St., Philadelphia, Pa. Automatic sheet cutting, glueing and pasting machines.
*Dom Supply Co., G. C., 125 E. Pearl St., Cincinnati, O. Dealers in engravers, electrotypers and lithographers supplies.
*Donohue, Thomas F., 200 Davis St., San Francisco, Calif. Dealer in new machinery.
*Dooley, J., 403 Broome St., New York, N. Y. Printers' machinist.
*Dorsey Printers Supply Co., Inc., 88 Hernando St., Memphis, Tenn. Mfrs. and dealers in electrotype, stereotype and printers' supplies.
*Douhitt Corp., 650 W. Baltimore St., Detroit, Mich. Mfrs. of photogravure device, supplies and repairs.
*Doyle Co., J. E., 310 Lakeside Ave., N. W., Cleveland, O. Mfrs. of electric sheet heaters, vacuum sheet cleaner, ink distributor and vibrating rollers.
*Dubrow & Hearne. See Graphic Arts Machinery Co.
*Duplex Printing Press Co., Battle Creek, Mich. Mfrs. of newspaper presses and stereotype machinery.
*Dura Type Founders Co., 575 Greenwich St., New York City. Mfrs. of type.
*Duro-Flex Products, Inc., 72 Commercial St., Worcester, Mass. Dealers in machinery and supplies.

DUST-LESS EQUIPMENT CO., 1406 Monroe St., N.E., Washington, D. C. Rubber roller grinding and finishing equipment, and roller setting gauges 107

E

*Eagle Type Founders Co., 625 W. Jackson Blvd., Chicago, Ill. Mfrs. of type.
*Eastern Machine Co., 330 Atlantic Ave., Boston, Mass. Dealers in new and used machinery. Repairing, moving and erecting machinery.
*Eastern Malleable Iron Co., Wilmington, Del. Mfrs. of quoins.
Eastern Mfg. Co., 500 Fifth Ave., New York, N. Y. Bond, cover, ledger, vellum, wedding and writing papers, and bristols.
Eastern Smelting & Refining Corp., 107-109 W. Brookline St., Boston, Mass. Electrotype, linotype, monotype and stereotype metals.
Easton Car & Construction Co., 10 E. 40th St., New York, N. Y. Paper handling trucks, tractors and trailers; track and turntables.
*Economy Lead Cutter Co., 144 E. Highland Ave., Milwaukee, Wisc. Mfrs. of lead cutters.
*Economy Printers Products Co., 123 W. Harrison St., Chicago, Ill. Dealers in supplies.
*Economy Printers Supply Co., 151 N. 6th St., Philadelphia, Pa. Dealers in used machinery.

EDES MFG. CO., Plymouth, Mass. Engravers' zinc and copper plates 104

*Eismann, Joseph F., 153 Lafayette St., New York City. Printing press machinist; rebuilt machinery.
*Electric Heating Co., Inc., 8616 Madison Ave., South Gate, Calif. Bending machine manufactured by others. Metal feeders and pots.

ELECTRO-HYDRAULIC MACH. CO., THE, 1025 Schweitzer Ave., Akron, O. Direct pressure molding machines, drying tables 28

*Elgin Bending Machine Co., 706 Douglas Ave., Elgin, Ill. Mfrs. of bending machine for electrotypers and stereotypers, shaving machine and matrix making machine.
*Elliott Addressing Machine Co., Cambridge, Mass. Mfrs. of bill printing machine.
*Ellison, W. F., 906 32nd St., Seattle, Wash. Machinist.

***EMBOSSOGRAPH PROCESS CO., 251 William St., New York, N. Y. Mfrs. of embossing machines, heaters, compounds and inks 109**

*Empire Machine Knife Works, 196 Hester St., New York, N. Y. Dealer in knives and shears; knife grinders.
Empire Metal Co., 820 E. Water St., Syracuse, N. Y. Linotype, monotype and stereotype metals.
*Empire Type Foundry, 25 Main St., Delevan, N. Y. Mfrs. of metal type.
*Empire Wood Type & Engraving Co., 252 Water St., New York, N. Y. Mfrs. of wood type.
*Ericson, Carl F., 465 Atlantic Ave., Boston, Mass. Mfrs. of Cleb automatic gas burner. General machinist and repairer.
*Eureka Photo Mechanical Equip., Inc., 350 W. 31st St., New York, N. Y. Mfrs. of photo composing machines and plate whirlers, to order.
*Ewald Co., L., 1726 Second Ave., Minneapolis, Minn. Mfrs. of well brushes and linotype plungers.
*Excello Machine Co., 412 Umatilla St., Grand Rapids, Mich. Machinists.

F

Falulah Paper Co., Fitchburg, Mass. 500 Fifth Ave., New York City. Coated cardboard.
*Farnsworth, John, Bourse Bldg., Philadelphia, Pa. Dealer in new and used machinery.

***FATE-ROOT-HEATH CO., THE, 234-269 High St., Plymouth, O. Mfrs. of knife grinders 29**

Federal Paper Board Co., Inc., 24 River Rd., Bogota, N. J. Paper-board specialties, linings and wrappers.
Federated Metals Corp., 600 W. 41st St., Chicago, Ill. Composing and stereotype metals.
Findley Co., F. G., The, 1243 N. Tenth St., Milwaukee, Wisc. Pastes and glues of all kinds; envelope gums.
*Finver, Abraham M., 320 Pearl St., New York, N. Y. Machinist.

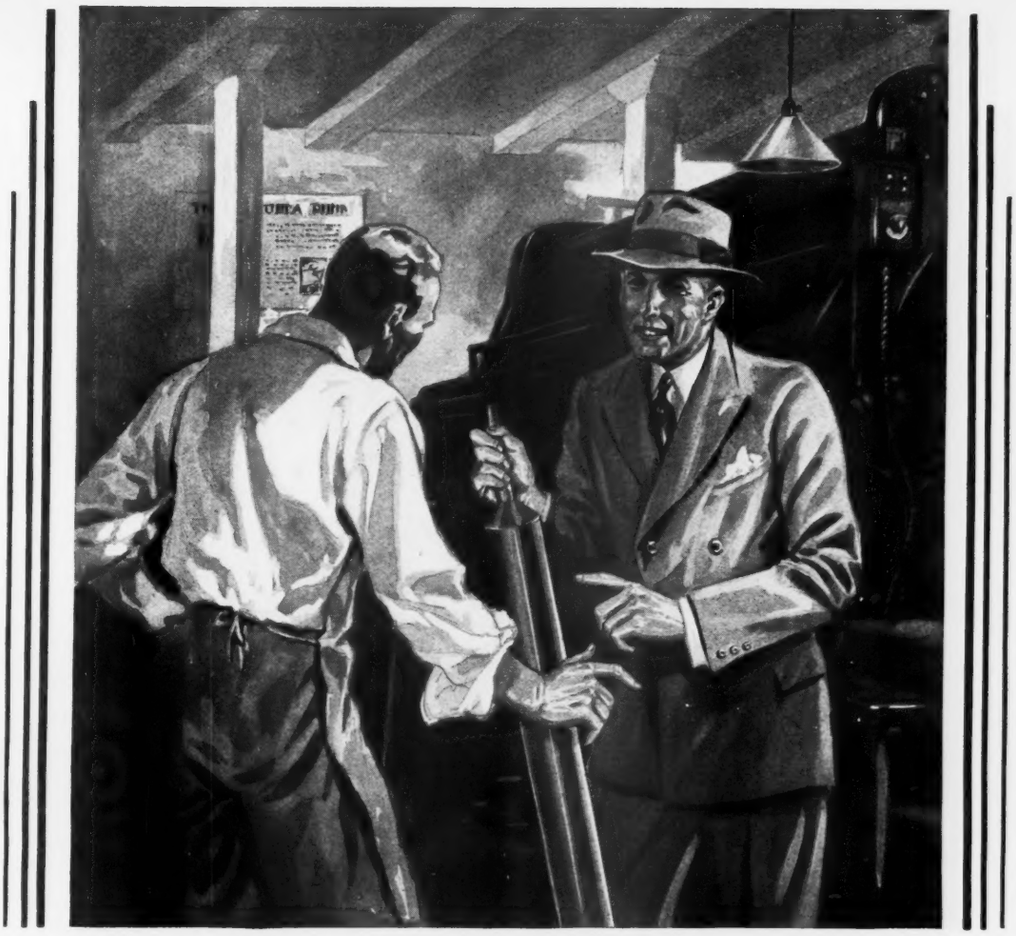
FITZ PATRICK FELT MFG. CO., 4024 Hamilton Ave., Cleveland, O. Printing press cork blankets 126

FLEXIDEAL DRY MAT CO., 21 West St., New York City. Dry mats 103

Foker, Oscar, Co. See Automatic Printing Equipment Co.

FOLEY MFG. CO., 11-15 Main St., N.E., Minneapolis, Minn. Mfrs. of saw sharpeners 127

*Force & Co., Wm. A., 105 Worth St., New York, N. Y. Mfrs. of numbering machines. Distributor of stamps and supplies.
Fort Dearborn Mfg. Co., 1st St. and 1st Ave., Sterling, Ill. Mfrs. of quick change magazine rack.
*Frank F., 2953 W. Lake St., Chicago, Ill. Dealer in machinery, tools and supplies.
*Franklin Printers Supply Co., 813 W. Wisconsin Ave. Milwaukee, Wisc. Dealers in supplies.
*Franklin Printers Supply Co., 608 Cherry St., Philadelphia, Pa. Dealers in new and used machinery and equipment.
*Frank's Printers Supply House, 3354 W. Harrison St., Chicago, Ill. Dealers in used machinery and supplies.
Fraser Paper, Ltd., Madawaska, Me., Sales office: Fraser Industries, Inc., 424 Madison Ave., New York City. Bond, ledger and safety papers; paper specialties.
*Freeland & McIver, 121 Fulton St., New York, N. Y. Machinists.
*Fremont Equipment Co., 4522 38th St., Long Island City, N. Y. Mfrs. of portable proof presses, portable cylinder presses and equipment.
*Fuchs & Lang Mfg. Co. See Rutherford Machinery Co.
*Fuller, E. C., Co., 28 Reade St., New York, N. Y. Dealers in bookbinding machinery; repairs and rebuilds bindery machinery.
Fuller Co., H. B., 186-190 W. Kellogg Blvd., St. Paul, Minn. Binders' glue and specialty pastes.



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DX Newspaper Rollers*
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Ideal Process Coated Rollers
Vanitex Lithographic Blankets
Graphic Non-Meltable Rollers
Coating and Varnishing Rollers
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DX Letter Press Rollers*
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Impression Rollers (all types)
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Rubber Waxing Machine Rollers
Rubber Tanning Machine Rollers
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G

*Galli Machine Works, 429 Tehama St., San Francisco, Calif. Printers' machinists.

*Gane Bros. & Lane, Inc., 1335 W. Lake St., Chicago, Ill. Dealers in bookbinders' supplies. Embosser mfrd. for them.

*Gardner, Inc., P. A., 709 Pine St., St. Louis, Mo. Mfrs. of gold stamping machine and supplies.

*Gebhard Bros., 228 Woodward Ave., Detroit, Mich. Mfrs. of Diamond printing inks. Dealers in wholesale printers' supplies.

*Gegenheimer, Inc., Wm., 78 Roebling St., Brooklyn, N. Y. Mfrs. of Baldwin press washers. Rebuilders of lithograph machinery. Dealers in new and used machinery.

*Gelb Co., Joseph, 250 W. 54th St., New York, N. Y. Mfrs and dealers in photo-engraving machinery.

GENERAL ELECTRIC CO., 1 River Rd., Schenectady, N.Y. Printing machinery motors and equipment 23-60-61-97

*General Mechanical Co., 430 S. Green St., Chicago, Ill. Machinists.

*General Printing Ink Corporation, 100 Sixth Ave., New York City. Mfrs. of all kinds of printing inks; offset plate making and printing press equipment.

Eagle Printing Ink Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y. Printing, lithographic and offset inks, varnishes and driers.

*General Printing Ink Corp. See Rutherford Machinery Co., Inc.

*General Printing Machinery Corp. See Mergenthaler Linotype Co.

General Tire & Rubber Co., Akron, O. Rubber printers' rollers, cutting rubbers.

Gerrard Co., Inc., The, 2915 W. 47tn St., Chicago, Ill. Newspaper bundling and tying machines.

*Gibbs-Brower Co., Inc., 401 Broadway, New York, N. Y. Dealers in printing machinery and paper and pulp mills.

Gilbert Paper Co., Menasha, Wisc., Bond, cover, ledger, safety and writing papers, bristols.

*Gimmel Bros., Inc., 19 Second St., San Francisco, Calif. Dealers in printing machinery and equipment.

*Gitzendanner-Muller Co., Inc., 15 Vanderwater St., New York City. Mfrs. of wire stitchers. Machinists and repairers.

Globe Printers Roller Co., Inc., 154 Purchase St., Boston, Mass. Composition and rubber rollers, padding compounds.

*Globe Type Foundry, Inc., 320 S. Jefferson St., Chicago, Ill. Mfrs. of type and supplies. Dealers in new machinery.

*Globe Unitype Foundry, 154 Grand St., New York, N. Y. Mfrs. of Unitype. Dealers in quads, spaces, rules, borders, etc.

Globe-Wernicke Co., The, Cincinnati, O. Office furniture and filing equipment.

GODFREY ROLLER CO., 211-15 N. Camac St., Philadelphia, Pa. Composition and rubber rollers; padding compound and rubber roller grinding for the trade 123

*Goldman, M. D., Bulletin Bldg., Philadelphia, Pa. Dealer in used litho. machinery.

*Goodman, Joseph H., 470 Atlantic Ave., Boston, Mass. Dealer in linotypes.

GOODRICH, B. F., RUBBER CO., Akron, O. Mfrs. of rubber rollers and blankets 20

GOODYEAR TIRE & RUBBER CO., INC., THE, Akron, O. Lithographic rubber rollers and blankets; newspaper rubber rollers and blankets, cutting rubbers and felt blankets 32

*Gorton, Clifford W., 48 Smith St., West Haven, Conn. Dealer in new and used machinery, type, metal, chases, galleys, mitering machines, cutters, stitchers, etc.

***GOSS PRINTING PRESS CO., 1535 Paulina St., Chicago, Ill. Mfrs. of newspaper printing presses 2-3**

Gould Paper Co., Lyons Falls, N. Y. News and manila papers.

*Gowdy Mfg. Co., Inc., 45 N. Division St., Buffalo, N. Y. Mfrs. of automatic envelope machine, imprinting attachment, and counter by others.

*Graphic Arts Machine Agency, 12 Wooster St., New York, N. Y. Dealers in new and used machinery, presses, dusting machines and bronzing machines.

*Graphic Arts Service Co., 530 Atlantic Ave., Boston, Mass. Dealers in machinery, inks and supplies.

*Graphic Machinery Exchange, Inc., 114 W. 26th St., New York City. Dealers in machinery.

Green's Paste Works, 2912 S. Salina St., Syracuse, N. Y. Padding compound and specialty glues.

*Griffiths Co., Inc., John, 145 Nassau St., New York City. Dealers in used machinery for newspaper and magazine job offices.

*Grist, Thomas, 4735 N. Klbourn Ave., Chicago, Ill. Machinist.

*Grove Co., Jacob R., 3708 Fulton St., N. W., Washington, D. C. Mfrs. of "No-Slip" gauge pins and grippers.

H

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill. Mfrs. of test presses and block levelers 105**

*Hackleman, Charles, W., Indianapolis, Ind. Mfr. of halftone screen measuring device.

*Hagman, Carl A., 352 Pearl St., New York, N. Y. Dealers in paper cutters and round corner trimmers.

*Haile Mfg. Co., B. R., 121 W. Albany St., Herkimer, N. Y. Mfrs. of printing machinery.

*Hall Co., Norman F., 167 First St., San Francisco, Calif. Dealer in supplies and wholesale paper.

*Hall Co., Thomas W., Inc., Melrose Ave., Stamford, Conn. Mfrs. and dealers in make-up tables.

*Hamilton Mfg. Co., 1315 18th St., Two Rivers, Wisc. Mfrs. of composing room furniture, wood type, cabinets, cases, work benches, etc.

Hammermill Paper Co., Erie, Pa. Bond, cover, ledger, offset, safety and writing papers; bristols.

*Hammond, Ernest J., 129 Dyer St., Providence, R. I. Mfrs. and dealer in machinery and supplies.

*Hammond Machinery Builders, Inc., 1600 N. Douglas Ave., Kalamazoo, Mich. Mfrs. of saw trimmers, mat rollers, routers, planers and casting boxes.

Hampton-Auld, Inc., 104-106 Verona Ave., Newark, N. J. Letterpress inks; ink specialties; varnishes and driers; gold and silver inks.

*Hanika, C. W., 420 S. Penn St., Indianapolis, Ind. Dealer in small perforating machines.

*Hansen, H. Alfred, 184 Summer St., Boston, Mass. Mfrs. of brass specialties. Dealer in supplies.

***HARRIS-SEYBOLD-POTTER CO., 4510 E. 71st St., Cleveland, O. Mfrs. of offset, typographical, gravure presses; cutters, trimmers, knife grinders, drills, perforators, wire stitchers, embossers, die presses, punches, etc ... Inserts, 50-51, 110-111**

Hart Mfg. Co., R. E., 14th St., Merrill Park, Battle Creek, Mich. Mfrs. of press counters, roller racks and press joggers.

HART, WILLIAM C., CO., INC., 137 Greene St., New York City. Printers' rollers, ball bearing roller cores, covered rollers, specialty glues and paste ... 106

*Hartnett Co., R. W., 1025 Cherry St., Philadelphia, Pa. Dealer in presses, binding machinery and supplies. Repairer and manufacturer of small machinery.

*Hartt, Harry F., 701 S. Wells St., Chicago, Ill. Machinist.

*Hawkins-Wilson Co., Inc., 716 Sansom St., Philadelphia, Pa. Mfrs. of steel die embossing; presses and feeders.

Hawthorne Paper Co., Kalamazoo, Mich. Bond, ledger, offset and specialty papers.

*Haywood Co., C. B., 431 N. W. Glisan St., Portland, Ore. Mfrs. of brakes, trucks, etc. Dealers in machinery and parts. Machine shop and repairs.

*Heidelberg Printing Machinery Corp., 228 E. 45th St., New York, N. Y. Dealers and importers of printing machines and sheet fed presses.

Heinrich, Inc., H. H., 200 Varick St., New York City. Rubber plate-making equipment; paper bag machinery; aniline and multi-color specialty presses.

*Heinsohn, A. E., 1443 Blake St., Denver, Colo. Dealer in machinery, supplies, ink and varnish. Repairer.

*Heise, H., Machine Shop, 416 N. Milwaukee St., Milwaukee, Wisc. Special machine work, erecting and repairing.

Helmold & Bro., Inc., J. F., 1462 Custer St., Chicago, Ill. Rule benders and cutters: perforating, cutting and creasing rule; round hole punches.

*Hempel, H. A., 55 Baynes St., Buffalo, N. Y. Mfrs. of quoins and keys.

*Henderson & Holland, 30 Perry St., New York, N. Y. Machinists.

*Hennigan Co., Inc., J. D., 549 W. Fulton St., Chicago, Ill. Dealers in new, used and rebuilt machinery.

***HENSCHEL MFG. CO., C. B., Mineral and Hanover Sts., Milwaukee, Wisc. Dealers in imported bronzing machines and equipment. Mfrs. of cigar boxes and labels. Finisher of litho. trade ... 78**

HERRICK, WM. C., INK CO., 401 W. 33rd St., New York City. Mfrs. of printing inks 122

*Herrick & Cowell Co., The, 39 Artizan St., New Haven, Conn. Mfrs. of paper box machinery. Machinists.

*Hess Co., A., 225 W. 34th St., New York, N. Y. Dealers in photo litho. and photo engraving macninery.

Heston & Anderson, Fairfield, Ia. Printers' metal saw.

Hewitt & Bros., Inc., C. B., 23 Greene St., New York City. Flexible, tag, felt and special papers; glues for all purposes.

*Hickok Mfg. Co., W. O., 9th and Cumberland Sts., Harrisburg, Pa. Mfrs. of knife grinders, shears, paper presses, numbering machines, backers, heaters, stabbing machines, tables, feeders, benches, ruling machines, etc.

*Hildebrand, W. R.: See Printing Press Ext. Deliv. Co.

*Hill Co., Harry; S., 1500 N. W. 20th Ave., Portland, Ore. Dealer and repairer of used machinery.

Hill-Hentschel Co., 301 South Vandeventer Ave., St. Louis Mo. Letterpress, litho and offset inks.

***HOE R., & CO., 138th St. and E. River, New York, N. Y. Mfrs. of newspaper printing presses, stereotype machinery, etc. 56-57**

Hoke Engraving Plate Co., 1024 Park Ave., St. Louis, Mo. Chalk plates, gravers and chalk plate accessories.

*Hofbauer & Co., George, 501 S. Dearborn St., Chicago, Ill. Knife grinders and dealers in knives and cutting sticks.

*Hoff, Leslie D., 2100 Westbury Ct., Brooklyn, N. Y. Mfrs. of combination slitter, scorer and perforator for cylinder presses.

*Hoffman, George C., 604 E. 12th St., Los Angeles, Calif. Dealer in new and rebuilt machinery and equipment.

*Hoffman Machinery & Eng. Co., 114 E. 13th St., New York, N. Y. Dealers and repairers of used machinery. Dealers in foreign machinery.

Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.

*Holm Co., Gust C., 721 S. Dearborn St., Chicago, Ill. Repairs and services machinery.

*Holmstrom, Axel, Drexel Bldg., Philadelphia, Pa. Mfr. and dealer in etching machine manufactured by others.

*Holt, James H., Inc., 261 Court Ave., Memphis, Tenn. Dealer in printing machinery, equipment and supplies.

Holyoke Card & Paper Co., Springfield, Mass. Cover papers, cardboard and coated specialties.

***HOOD-FALCO CORP., 225 Varick St., New York, N. Y. Dealer in used machinery and equipment ... 122**

*Hoole Machine & Engraving Works, Inc., 30 Main St., Brooklyn, N. Y. Mfrs. of numbering machine for bookbinders — does engraving on brass and other metals.

*Hopmans & Connelly, 45 Division St., N., Buffalo, N. Y. Knife grinders.

Horton Mfg. Co., 3016 University Ave., S. E., Minneapolis, Minn. Variable speed printing press, pulleys.

*Howard, Harry P., 3253 83rd St., Jackson Heights, Long Island. Machinist.

*Hoy, Frank C., 519 Main St., Cincinnati, O. Mfrs. of offset and static eliminators.

Hoyt, Arthur So., Co., Inc., 175 5th Ave., New York City.

*Hudson-Sharpe Machine Co., Inc., 1207 Main St., Green Bay, Wisc. Mfrs. of crepe machines, napkin folders, collapsible reels, bundling and baling machines.

*Huebner Laboratories, 202 E. 44th St., New York, N. Y. Dealers in offset plate making machinery, cameras, presses and processors.

*Hultman & Co., G. T., 715 S. Dearborn St., Chicago, Ill. Dealers in new and used machinery. General repairs and saw sharpening.

Humidifier & Vent. Co., R. I., 99 Chauncy St., Boston, Mass. Air conditioning equipment.

Hurlbut Paper Co., South Lee, Mass. Bond, cover, ledger, writing, book and specialty papers.

*Hyman, Frank W. See Rotogravure Eng. Corp.

I

*Ideal Printing Press Repair Shop, Inc., 734 S. Clark St., Chicago, Ill. Machinist; repairs, erects and moves presses.

IDEAL ROLLER & MFG. CO., 2512 W. 24th St., Chicago, Ill.; 22nd St. and 39th Ave., Long Island City, N. Y. Ideal Process rubber and lithographic rollers, rubber tanning rollers, specialty rubber rollers, lithographic press blankets, negative film holders; especially designed rollers 49

*Ideal Stitcher & Mfg. Co. See Christensen Machinery Co.

*Illinois Printers Supply Co., 1137 E. Washington St. E., Peoria, Ill. Mfrs. of supplies. Dealers in used machinery.

ILLINOIS TESTING LABORATORIES, INC., 141 W. Austin Ave., Chicago, Ill. Portable and stationary pyrometers 126

IMPERIAL TYPE METAL CO., Chicago, New York, Philadelphia, Los Angeles. Composing, stereotype and electrotype metals, metal flux and composing machinery mold polish ... inside back cover

Imprint Matrix Co., Moravian Falls, N. C. Composing machine special matrices to order.

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*Indiana Printers Supply Co., 109 Kentucky Ave., Indianapolis, Ind. Mfrs. of calendar plates, type and supplies. Dealers in small presses, type, cases, cabinets, machinery and tools.

Inland Empire Paper Co., Milwood, Wash. Book, newsprint, poster and writing papers.

Inman Mfg. Co., Inc., 51 Guy Park Ave., Amsterdam, N. Y. Tray and setting up machines for printing and forming paper boxes.

*International Intaglio Corp., 45 W. 45th St., New York, N. Y. Importers of Machinery and supplies.

International Paper Co., 220 East 42nd St., New York City. Bond, book, cover, ledger, manila, newsprint, offset poster, and rotogravure paper.

*International Paper Box Mach. Co., 315 Main St., Nashua, N. H. Mfrs. of printing machine and rapid folding box machine.

*International Press Cleaner & Mfg. Co., Inc., 1265 W. 2nd St., Cleveland, O. Mfrs. of press cleaner and dampening device for litho. presses.

INTERNATIONAL PRINTING INK CORP., New York City. Mfrs. of printing inks 10-11

***INTERTYPE CORP., 360 Furman St., Brooklyn, N. Y. Mfrs. of Intertype composing machines, matrices, parts, supplies and accessories outside back cover**

J

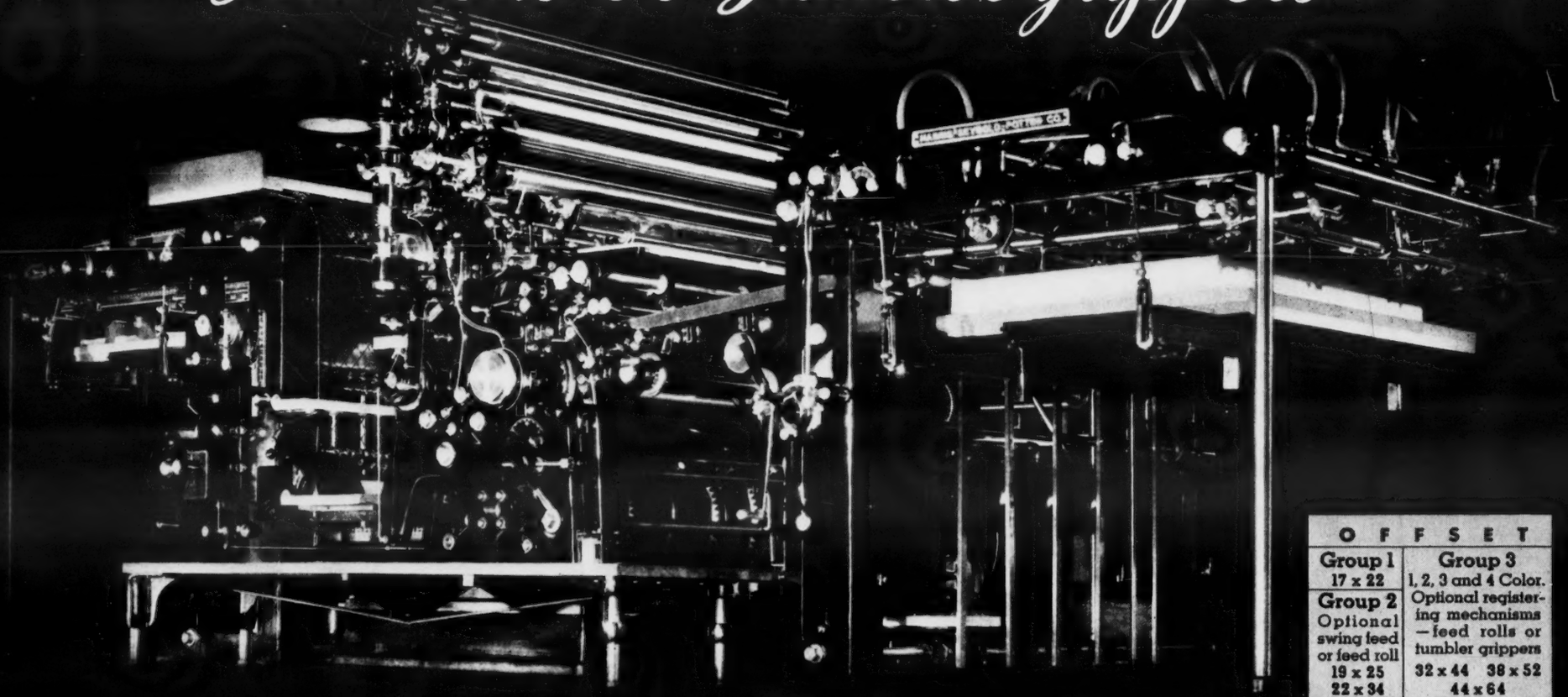
*Jacksonville Typesetting Co., Forsyth and Newman Sts., Jacksonville, Fla. Dealers in printers' supplies, leads, slugs, rules, etc.

*Jacques & Son, John, 93 Webster St., Worcester, Mass. Mfrs. of shears for bookbinders and printers, fine card cutting machine, slitting shade cutting and greasing machinery.

Jampol Co., The, Eleven Park Place, Park Murray Bldg., New York, N. Y. Newspaper plant material handling equipment.

Optional readings in machinery

Optional registering mechanisms... Feed rolls or Jumbler grippers



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Group 1 17 x 22	**Group 3** 1, 2, 3 and 4 Color. Optional registering mechanisms — feed rolls or tumbler grippers 32 x 44 38 x 52 44 x 64
Group 2 Optional swing feed or feed roll 19 x 25 22 x 34	
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GRAVURE	
Sheet Feed and Web	

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*Jennings Hillory, 619 N. Beech St., Little Rock, Ark. Dealer in Babcock presses.
*Johnson Mfg. Co., C. I., 51 E. 3rd St., St. Paul, Minn. Dealer in new and used machinery and supplies.
*Johnson Co., Joseph E., 610 Atlantic Ave., Brooklyn, N. Y. Dealer in type, stamps and supplies.
Johnson-King Co., 515 S. Wells St., Chicago, Ill. Letterpress, lithographic, offset, rotogravure, copper plate and steel die inks, varnishes, driers and intaglio engraving supplies.
*Johnson Perfection Burner Co. See J. E. Doyle Co.
*Johnson Roller Rack Co. See Hammond Machinery Builders.
Johnson Co., Inc., Wm. R., 72 Columbia St., Seattle, Wash. Padding compounds and glue.
*Johnstone Electric Co., Inc., 536 S. Clark St., Chicago, Ill. Mfrs. and dealers in photo engravers' machinery and supplies.
*Jones, J. H., 430 S. Green St., Chicago, Ill. Machinist.
*Jorson & Carlson Co., Inc., 707 S. Dearborn St., Chicago, Ill. Knife grinders.
*Judson Co., The, 240 W. 40th St., New York, N. Y. Mfrs. of rules. Dealers in type.
*Jurgs & Beall Vertical Service Co. See Vertical Service Co.
*Juul Co., P. A., 302 Sheldon St., Chicago, Ill. Mfrs. of dies, tab cutting equipment, perforator dies, etc. Bookbinders' machinist.

K

Kalamazoo Paper Co., Kalamazoo, Mich. Book, litho, offset and specialty papers.
*Kansas City Printers Exchange, Inc. See Cornell & Everett.
Kastens Co., Henry, 418 W. 28th St., New York City. Time stamps.
*Kay Bee Sealing Service, 188 W. 4th St., New York, N. Y. Mfrs. of broadside and circular sealing machine.
*Kellett Co., 501 S. Dearborn St., Chicago, Ill. Knife grinders.
*Kelsey Press Co., The, 62 Colony St., Meridan, Conn. Mfrs. of small hand printing press, type founders and dealers in new and used machinery.

KEMP MFG. CO., THE C. M., 405 E. Oliver St., Baltimore, Md. Gas heating equipment for composing and stereotype machinery and remelting pots 31

*Kemper, R. E., North Chatham, N. Y. Mfrs. of Type-Hi gauge.
*Kennedy-Hearing Corp., 1132 Race St., Philadelphia, Pa. Dealers in machinery and supplies.

KIDDER PRESS CO. See U.P.M.-Kidder Co.

Kienle & Co., 33-47 Nassau Ave., Brooklyn, N. Y. Letterpress, lithographic and offset inks.
*Kimble Electric Co. See Miehle Printing Press & Mfg. Co.
*King, W. B., 624 Western Ave., Seattle, Wash. Dealers in used machinery and small material.

KLEAN-O-MAT DIV., THE FRED GOAT CO., INC., 314 Dean St., Brooklyn, N. Y. Line-casting matrix and magazine cleaning equipment 81

*Knives & Saws, Inc., 539 N. Cicero Ave., Chicago, Ill. Knife grinders.
*Kochendorfer, A., 424 W. Broadway, New York, N. Y. Dealer in knives, cutting sticks and sharpens saws.

***KOHLER BROS., 410 N. Michigan Ave., Chicago, Ill. Mfrs. of pasters, winders, reels, etc.** 18

*Komisky, John, 2854 McNair Ave., St. Louis, Mo. Machinist.
*Konecky Bros., Inc., 21 E. 4th St., New York, N. Y. Dealer in rebuilt printing and litho. machinery.
Korfund Co., Inc., The, 48-15 Thirty-Second Pl., Long Island City, N. Y. Cork plates for isolation of printing press vibration.
Korn, Inc., Wm., 120 Centre St., New York City. Lithographic transfer ink and specialties.

KRASILOVSKY, M., & BRO., INC., 216 Centre St., New York City. Printing plant machinery mover 110

***KRAUSE, KARL, U. S. CORP., 55-57 Van Dam St., New York City. Importers of German printing machinery** 101

L

LAKE ERIE STEREOTYPE EQUIPMENT CO., Kenmore Station, Buffalo, N. Y. Hydraulic matrix press and plate milling machine 102

*Lance Co., The, 1300 Young St., Dallas, Tex. Dealers in new and used machinery. Rebuilds and repairs.

***LANSTON MONOTYPE MACHINE CO., 24th at Locust Sts., Philadelphia, Pa. Mfrs. of negative holders, photo composing machines, register frames, chases, tables, cabinets and type and material making machines. Dealers in used machinery manufactured by others** 52

*Larsen Machine Co., A. L., 152 Purchase St., Boston, Mass. Dealers and repairers of used machinery.
*Larson, Ralph T., 35 Beekman St., New York, N. Y. Mfrs. of quad guides ofr presses, etc. Machinist.
*Latham Auto Registering Co., Inc., 608 S. Dearborn St., Chicago, Ill. Mfrs. of registering devices for presses, etc., hooks and bases.
*Latham Machinery Co. See Boston Wire Stitcher Co.
*Lavery, Charles, 69 E. Long St., Columbus, O. Dealer in machinery and supplies.
*Lawson & Co., E. P., 424 W. 33rd St., New York City. Dealer in bookbinding machinery.
*Lebert, August, 549 S. Wells St., Chicago, Ill. Machinist.
Lee Paper Co., Vicksburg, Mich. Bond, ledger and offset papers, vellum and paper specialties.
J. M. Lehmann Company, Inc., 248-250 W. Broadway, New York, N. Y. Roller mills.
Leiman Bros., Inc., 156 Christie St., Newark, N. J. Pressure and vacuum air pumps and specialty blowing equipment.
Lester & Wasley Co., Inc., The, 282 Franklin St., Norwich, Conn. Specialty paper and scoring, creasing and slitting machinery.
Levison Mfg. Co., 1540 California St., San Francisco, Calif. Sectional metal bases and clamps.
*Levy & Co., Max, Wayne and Berkley, Philadelphia, Pa. Mfrs. of halftone screens, cameras, stands and printing frames. Dealers in lenses, lamps, baths and whirlers.
Lewis-Shepard Co., 227 Walnut St., Watertown, Mass. Lift trucks, portable cranes and specialty handling appliances.
*Liberty Folder Co., The, Brooklyn St., Sidney, O. Mfrs. of folding machines and automatic feeders.

***LINDBLADH CORP., THE, 40 Court St., Boston, Mass. Mfrs. of paper ruling machines and automatic sheet feeding machines** 82

*Lindner Co., The E. G., 419 Wall St., Los Angeles, Calif. Dealer in used printing and litho. machinery.
*Linograph Corp., 107 Scott St., Davenport, Ia. Mfrs. of linotype and casting machinery supplies, parts and accessories. Dealers in supplies. Rebuild machinery.
*Linotype Maintenance Co., 174 Lafayette St., New York, N. Y. Machinists. Linotype, intertype parts and equipment.

***LINOTYPE PARTS CORP., 203 Lafayette St., New York, N. Y. Mfrs. of composing room and typesetting machinery, supplies, parts and accessories** 27

*Linotype Repair Co., 270 Lafayette St., New York, N. Y. Repairers of linotypes.
*Linotype Supply Co., 321 Broadway, New York, N. Y. Mfrs. composing room and typesetting machines, supplies, parts and accessories, motors and repairs.
*Linotypers' Supply Co. (G. S. Loring), 470 Atlantic Ave., Boston, Mass. Dealers in linotype parts and supplies. Repair and rebuild machinery.
*Logemann Bros. Co., Inc., 3150 W. Burleight St., Milwaukee, Wisc. Mfrs. of baling presses and die cutting machines.
*Lorenz & Co., Louis, 35 Rose St., New York, N. Y. Machinist; manufacturer of litho. supplies.
*Loring, G. S. See Linotypers' Supply Co.
*Lothrop Angle Steel Equip. Co., Inc., 325 W. Madison St., Chicago, Ill. Dealers in steel furniture.
Loyd Co., John, 87 Walker St., New York City. Specialty knives and blades.

***LUDLOW TYPOGRAPH CO., 2032 Claybourn Ave., Chicago, Ill. Mfrs. of casting machine, matrices, type, slug, and rule cast machine, molds and equipment** 9

*Ludwig-Duell Co., 30 Beekman St., New York, N. Y. Dealers in monotype rules and borders.
*Ludwig, Otto, Printers Supply, Inc., 106 Ann St., Hartford, Conn. Dealers in printing machinery. Repairers.

M

*Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa. Mfrs. of arc lamps for graphic arts trade.
*MacKenzie & Harris, Inc., 659 Folsom St., San Francisco, Calif. Mfrs. of type, rules, leads, slugs, hand composition, intertype and monotype.
*Majestic Intertype & Linotype Accessories Corp., 31 Railroad Ave., Freeport, L. I. Dealers in linotype and intertype accessories and supplies.
*Makatag Mfg. Corp., Reading, Mass. Mfrs. of Patcheyeletting machines.

M. & L. TYPE FOUNDRY, 4001 Ravenswood Ave., Chicago, Ill. Mfrs. of type 108

*Manders, P. G., 519 Fourth St., Minneapolis, Minn. Dealers in new and used machinery.
*Mann-O-Type Foundry, 317 E. 4th St., Los Angeles, Calif. Mfrs. of type, rule, slugs, borders, etc.
Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc., 61 Willett St., Passaic, N. J. Rubber printing rollers; belting.
Marathon Electric Mfg. Corp., P. O. Box 440, Wausau, Marathon County, Wisc. Electric motors; grinders, polishers and buffers; ventilating and exhaust fans.

***MARGACH MFG. CO., INC., 213 Centre St., New York, N. Y. Mfrs. of feeders for typesetting machines, work holders for saw trimmers. Repair linotype machines. Dealers in parts** 5

*Marresford, Inc., Wm. F., College and Highland Aves., Niagara Falls, N. Y. Mfrs. of bookbinders machinery, lift trucks and tipping machines.
*Marsh Co., Hamilton R., 11th and Race Sts., Philadelphia, Pa. Dealers in printing machinery, linotypes and bookbinding equipment. Repair and rebuild.
Marsh Stencil Machine Co., Belleville, Ill. Stencil cutting equipment and supplies.
*Marshall, F. A., 745 Jackson Ave., Elizabeth, N. J. Sharpens printers' saws; linotype maintenance.
*Martin, Harry M., 24 N. Pulaski St., Baltimore, Md. Dealer in used machinery and equipment on commission.
*Martin Machinery Corp., 136 Liberty St., New York, N. Y. Dealers in bookbinding machinery. Special machinery built by Whiting Corp.
*Martin, James, Machine Shop, 90 Clifton St., Rochester, N. Y. Dealer in used printing machinery. Machinist.
*Mason-Moore-Tracy, Inc., 30 E. 4th St., New York, N. Y. Dealers in used printing machinery. Machinists.
*Master Etching Machine Co., Drexel Bldg., Philadelphia, Pa. Mfrs. of etching machines and photo engraving equipment.
*Matney Printers Supply Co., 2115 Cuming St., Omaha, Neb. Dealers in printers' supplies.

***MATRIX CONTRAST CORP., 4005 Empire State Bldg., New York, N. Y. Mfrs. of process for applying Black and White contrasts to linecasting machine matrices** 34

*May Sons, Fred, 259 Pearl St., New York, N. Y. Dealer in knives and knife grinder.
Mayer Coating Machines Co., Inc., 520 Scottsville Rd., Rochester, N. Y. Specialty coating machines.
Mayer Co., Inc., Robert, 1107 Grand St., Hoboken, N. J. Letterpress and litho-offset inks, gold ink varnish.

***MEGILL, EDWARD L., CO., 761 Atlantic Ave., Brooklyn, N. Y. Mfrs. of printing press attachments — gauge pins, gauges, gripper fingrs** 128

*Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass. Mfrs. of printing presses — bed, platten and rotary — slitting and rewinding machine, sheet cutters and special machinery.
*Memmler, Eugene, Box 697, Arcade Bldg., Los Angeles, Calif. Mfr. of "Gene" roller gauge.
*Mentges Folder Co., The, Ash and Poplar Sts., Sidney, O. Mfrs. of newspaper folding machines, steel stands and display racks.

***MERGENTHALER LINOTYPE CO., 29 Ryerson St., Brooklyn, N. Y. Mfrs. of linotype machines, parts, matrices, type and other devices** 43

Metals Refining Co., Hammond, Ind. Composing and stereotype metals; metal flux and type wash.
*Metropolitan Credit & Discount Corp., 512 N. LaSalle St., Chicago, Ill. Dealers in used machinery.
*Meyer & Son, John C., 129-137 N. 12th St., Philadelphia, Pa. Mfrs. of type. Linotyper.
Meyer Co., The E. W., 407 East Michigan St., Milwaukee, Wis. Metallic inks.
*Meyers Co., L. W., 1828 Milwaukee Ave., Chicago, Ill. Mfrs. of self-adjusting roller; backers for bookbinders.
McLauthlin Co., Inc., Geo. T., 120 Fulton St., Boston, Mass. Mfrs. of paper cutters.
*Mick Co., W. K., 1679 University Ave., St. Paul, Minn. Mfrs. of paper drill, general and special machinery.
*Mid-West Printers Machine Works, 610 Federal St., Chicago, Ill. Dealer in used printing machinery.
*Mid-West Rotoprint Corp., 505 Prospect-Fourth Bldg., Cleveland, O. Dealers in printing machinery, supplies and accessories for Reiner's Rotoprint, Inc.
*Miehle Printing Press & Mfg. Co., 14th and S. Damen Ave., Chicago, Ill. Mfrs. of revolving presses, automatic job, offset, cutting and creasing presses, feeders, motors, etc.
*Miles Machinery Co., 482 W. Broadway, New York, N. Y. Dealers in offset photographic, engraving, stereotype equipment. Machinist.

***MILLER PRINTING MACHINERY CO., 1117 Reedsdale Ave., Pittsburgh, Pa. Mfrs. of presses, saws, saw trimmers and other machinery. Also motors and electrical equipment** Insert, 76-77

*Miller Service, 118 S. Clinton St., Chicago, Ill. Printers' machinists.
*Milwaukee Printers Roller Co., 420 S. Fourth St., Milwaukee, Wisc. Dealers in new and used and rebuilt printing machinery. Mfrs. of rollers.

***MILWAUKEE SAW TRIMMER CORP., 612 E. Clybourne St., Milwaukee Wisc. Mfrs. of cutting tools, precision and stereotype saws for printers and engravers** 19

*Minkow Machine Co., Robert, 167 Wooster St., New York, N. Y. Mfrs. of table gluers.
Mishawaka Industrial Instrument Mfg. Lab., 936 Washington Ave., Mishawaka, Ind. Indicating pyrometers.
*Missouri Brass Type Foundry, 22nd and Howard Sts., St. Louis, Mo. Mfrs. of brass type and lettering pallet.
*Missouri Central Type Foundry, 701 E. Murdock Ave., Wichita, Kans. Mfrs. of type, feeders, saws, routers, casters and moulders. Dealers in machinery and supplies.
*Mitchell, Frank, 228 E. 45th St., New York, N. Y. Mfr. of type.
*Model Press Co., The, 117 S. Belvidere Ave., York, Pa. Dealers in type and supplies.
*Mohr-Lino-Saw Co., 609 W. Lake St., Chicago, Ill. Mfrs. of lino slug saws.
*Monarch Engineering & Mfg. Co., The, 702 American Bldg., Baltimore, Md. Mfrs. of metal melting furnaces and printing machinery.

***MONOMELT CO., INC., THE, 1611 Polk St., Minneapolis, Minn. Mfrs. of electric and gas units, trucks and metal handling equipment, Monomelt machine and small mechanical items** 127

The M-H Layout Table

The Monotype-Huebner Photo-Imposing System

★ The M-H Layout and Register Table
★ The M-H Register Chase
★ The M-H Registering Vacuum Frame

The Most Important Contribution to the Art of Making Offset Press Plates Since the Invention of the Photo-Composing Machine

Because much work that has heretofore required a Photo-Composing Machine may now be done with the M-H All-Metal Registering Vacuum Frame, used in combination with the M-H Layout and Register Table and M-H Register Chase. On the simplest kinds of work these new units save time and promote accuracy. On more complicated work they make possible new and vital economies, for they eliminate the costly hand process of stripping film to combine type and halftones on the same press plate. For two-color work and for the speedy production of press plates that must register they are invaluable. In the plant that has no Photo-Composing Machines these equipments furnish a very simple system for repeating images on the same press plate, usually referred to as Step and Repeat Work.

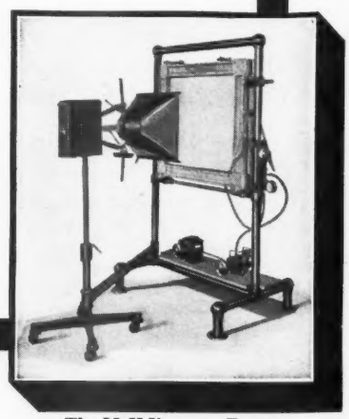
Illustrated Descriptive Folder Will Be Mailed on Request

(The M-H Register Chase Used with M-H Layout Table and M-H Registering Vacuum Frame)

These new units for Photo-Imposing are based on U. S. Patent No. 1,914,126 issued to William C. Huebner and are manufactured to Monotype Standards and sold by us under exclusive License. Other Patents Pending.

LANSTON MONOTYPE MACHINE COMPANY

24th at Locust Street, Philadelphia, Pa.



The M-H Vacuum Frame

This advertisement is composed in the Monotype Bodoni Family; Display in Condensed Gothic, No. 140

*Monotype Co. of California. See Lanston Monotype Mach. Co.
*Monsen & Son, Inc., Thormond, 730 N. Franklin St., Cnicago, Ill. Mfrs. of type and type transfers.
*Montgomery & Bacon, Elizabeth and Railroad Sts., Towanda, Pa. Mfrs. of type, composing machine parts and supplies, casting boxes and magazines.
*Moore Machinery Co., 109 S. Hanover St., Baltimore, Md. Mfrs. of steel chases. Printers and bookbinders machinists.
*Morgan Expansion Roller Truck Co., 6368 Hollywood Blvd., Hollywood, Calif. Mfrs. of trucks, perforators and gauge pins.
*Morgan & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y. Mfrs. of steel and iron furniture, cabinets, locks, paper cutters, proof presses, saw tables, etc.
*Morida Mfg. Co., 32 Oliver St., Boston, Mass. Mfrs. of dryers and neutralizer for job presses.

MORLEY BUTTON MFG. CO., 865 Islington St., Portsmouth, N. H. Stereotype dry mats.....125

Morrill Co., Geo. H., 100 Sixth Ave., New York City. Newspaper, letterpress, lithographic and water color inks.
*Morrison Co., J. L. See Harris-Seybold-Potter Co.
*Mueller & Sons, Chas. R., 150 W. Larned St., Detroit, Mich. Machinist.
*Muller Co., Chas. A., Inc., 153 Lafayette St., New York, N. Y. Dealers in gluing machines, index cutting machines and bookbinding machinery.
*Muller Co., John H., Inc., 337 Water St., New York, N. Y. Machinists.
Munising Paper Co., The, Munising, Mich.
*Munzey Machine Co., 500 E. Pico St., Los Angeles, Calif. Repairers of automatic feeders, wire stitchers, folders and cutters.
*Murphy, Joseph E., 91 Exchange St., Worcester, Mass. Dealer in typefounders supplies.
*Murphy Specialty Co., 212 S. 3rd St., Milwaukee, Wisc. Mfrs. of "Speedisealer" machine for sealing broadsides.
*Myers, E. G., 924 Santa Fe Bldg., Dallas, Texas. Dealer in new and used machinery. Rebuilds and repairs machinery.
*Myover-Stryker Co., Fredonia, Kans. Mfrs. of perforating attachment for Kelly presses.
*McAdams & Sons, John, 978 Kent Ave., Brooklyn, N. Y. Mfrs. of ruling, feeding and paging machines.
*McKinley Machinery Co., Inc., 1623 John St., Cincinnati, Ohio. Dealers in printing machinery and supplies. Mfrs. of distributing rollers.
*McNamara, J. V., 31 Truman St., New London, Conn. Machinist.

N

*N. & K. Machine Co., 124 Anderson St., Pittsburgh, Pa. Machinists.
*National Matrix & Type Co., The, 15 S. Frederick St., Baltimore, Md. Mfrs. of type and matrices.

NATIONAL STEEL & COPPERPLATE CO., 2020 Larrabee St., Chicago, Ill.....120

*National Type Foundry, Inc., 340 Boulevard of the Allies, Pittsburgh, Pa. Mfrs. of type. Dealers in new machinery and type casters.
Naz-Dar Co., 4014 N. Rockwell St., Chicago, Ill. Silk screen printing machines and supplies.
*Nebraska Printers Supply Co., 102-3 Terminal Bldg., Lincoln, Neb. Dealers in machinery, type, supplies and composition.

***NELSON, C. B., & CO., 727 S. Dearborn St., Chicago, Ill. Mfrs. of saw trimmers and cost cutter saws; repairers of machinery; special machinery designed..... 80**

*Nelson & Sons, Gust O., 626 S. Dearborn St., Chicago, Ill. Knife grinder.
*Nelson Machinery Corp., 225 N. Michigan Ave., Chicago, Ill. Dealers and agents for German engraving and rotogravure presses.
*Neotype Co., 52 E. 19th St., New York, N. Y. Mfrs. of type.
*Nessler & Wagner Co., 207 E. 6th St., Cincinnati, O. Dealers in machinery, knife grinders, machinists, mfrs. of small supplies.

NELSON ROLLER CO., Tribune Tower, Chicago, Ill. Sold distributor Dayton "Stay-Put" rubber roller..... 8

*Nevraumont & Son, Inc., J. R., 243 Vallejo St., San Francisco, Calif. Mfrs. of "Superior" all-steel composing room equipment. Sharpens saws. Dealers in machinery and supplies.
*New England-Connecticut Type Founders, Meridan, Conn. Type founders.
*New England Machinery Builders, 463 S. 1st St., New Bedford, Mass. Mfrs. of printing machinery.
*New Era Mfg. Co., 375 Eleventh Ave., Paterson, N. J. Mfrs. of flat bed and web-fed offset presses.
*New Jersey Type Foundry, Cranford, N. J. Mfrs. of type.
*New Jersey Wire Stitching Mach. Co., 608 S. Second St., Camden, N. J. Mfrs. of wire stitchers and staples.

***NEWTON'S MACHINE SHOP, 211 High Ave., Cleveland, O. Machinists on presses, linotypes and monotypes.....124**

*New York Printing Machinery Exchange, 140 W. 22nd St., New York, N Y.. Dealers in use dmachinery.
*Nicholson, J. C., 693 Mission St., San Francisco, Calif. Mfrs. of fountain dividers.
*Nick's Machine Shop, 921 Larimer St., Denver, Colo. Dealers in machinery. Machinist. Repairer. Paper knife grinder.
Nikolas & Co., Inc., G. J., 1227 W. Van Buren St., Chicago, Ill. Lacquer enamels.
Niles & Nelson, Inc., 75 West St., New York, N. Y. Rubber printing rollers.
*Niner Co., J. C., 26 S. Gay St., Baltimore, Md. Dealers in new and used machinery and supplies.
*Nissenbaun, Inc., Irving, 114 W. 27th St., New York, N. Y. Dealers in new and used machinery, equipment and accessories.
*Nolan, Edward J., Engineering Co., Rome, N. Y. Dealers in casting boxes, moulders, etc.
*Nonpareil Sub-Chase Co., 268 First St., San Francisco, Calif. Mfrs. of chases.
North American Smelting Co., Inc., 9th and Thompson Sts., Philadelphia, Pa. Composing and stereotype metals; copper anodes; engraving copper.
*Northern Machine Works, Marshall & Jefferson Sts., Philadelphia, Pa. Dealers in new and used machinery. Repairers.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill. Printing press motors; motors for other printing machinery.
*Northwest Type Foundry, 510 Fifth Ave., S., Minneapolis, Minn. Mfrs. of type.
*Nossel, Frank, 38 Park Row, New York, N. Y. Dealer in presses.
*Novelty Mfg. Co., 330 W. Pleasant St., Springfield, O. Mfrs. of perforators and Deegan rollers.
*Nuernberger, Phil, 859 N. Franklin St., Chicago, Ill. Machinist.
*Numbering Machine Co., 4921 Palmer Ave., Baltimore, Md. Dealers and repairers of numbering machines.
*Numbering Machine Hospital, 681 Market St., San Francisco, Calif. Mfrs. and repairers of numbering machines and supplies.
Nutting Truck Co., Faribault, Minn. Floor trucks, casters and wheels.
*Nyberg & Co., Carl M., 302 W. Van Buren St., Chicago, Ill. Knife grinders.
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill. Mfrs. of perforators, embossers, numbering machines, drills, punches, etc.

O

*Offen & Co., B., 608 S. Dearborn St., Chicago, Ill. Mfrs. of humidifiers.
*Omaha Folding Machine Co., 2009 Cuming St., Omaha, Nebr. Mfrs. of folding machines and lift trucks.
*Omaha Printers Supply Co., 1122 Harney St., Omaha, Nebr. Dealers in new machinery, linotype and monotype composition, type and composing room equipment.
Oroline Products Co., 127 W. Harrison St., Chicago, Ill. Gold and silver ink powders, metallic ink varnishes.

O'SULLIVAN SLIDE RULE CO., 47 West St., New York City. Slide Rule for printers.....125

*Ortleb Co., Inc., George, 114 North 3rd St., St. Louis, Mo. Mfrs. of ink agitators. Dealers in supplies, printers' machinists.
Osgood Co., J. H., 33 Purchase St., Boston, Mass. Composition and Rubber Rollers.
*Ostrander-Seymour Co., The, 1900 S. 54th St., Cicero, Ill. Mfrs. of machinery and equipment for electrotypers, stereotypers and photo-engravers, beveling machines, planers, drilling machines, proof presses, routers, saw trimmers.
*Oversewing Machine Co., 770 E. Washington Ave., Los Angeles, Calif. Mfrs. of an oversewing machine for bookbinders.

P

***PAASCHE AIRBRUSH CO., 1911 Diversy Pkwy., Chicago, Ill. Mfrs. of "No-Offset" process..... 95**

*Pabish, W. R., 2855 N. Rockwell St., Chicago, Ill. Mfrs. of a non-offset process. Repairs and sells stitchers.
*Pacific Printers Supply Co., Inc., 1220 S. Maple Ave., Los Angeles, Calif. Dealers in new and used machinery and supplies. Mfrs. of type, leads, slugs, rules and quads.
*Pacific States Machinery & Sup. Co., 82 Natoma St., San Francisco, Calif. Dealers in machinery.
Padgett Any-Angle Furniture Co., 2019 Bryan St., Dallas, Texas. Angle printers' furniture.
*Page, Robert R., 225 E. 24th St., New York, N. Y. Mfrs. of fountain dividers and magnifiers.
*Palmer, Suter & Palmer, 350 Madison Ave., New York, N. Y. Dealers in newspaper properties on contract basis.
*Pape, Thomas A., 21 Division St., Newark, N. J. Dealer in printing machinery.
*Parker Wire Goods Co., Worcester, Mass. Mfrs. of composing room tools.
*Parry, S. R., 224 Mill St., Rochester, N. Y. Mfrs. and dealer in printers', bookbinders' and paper box machinery.
Parsons Paper Co., Holyoke, Mass. Bond, ledger and linen papers, bristols.
Partlow Corp., The, 2 Campion Rd., New Hartford, N. Y. Gas, electric and temperature controls.
*Patchen & Hoefler, 40 Aqueduct St., Rochester, N. Y. Dealers in printers' machinery and supplies. Printers' machinists.
Patten Paper Co., Ltd., Appleton, Wisc. Book and text papers.
*Paul, J. L., 608 S. Dearborn St., Chicago, Ill. Dealer in printers' machinery.
*Pavyer Printing Machine Works, 600 S. Broadway, St. Louis, Mo. Dealers in used machinery. Printers' machinists.
*Payne & Walsh, 213 Centre St., New York, N. Y. Dealers in new and used machinery and equipment.
*Peckham Machinery Co., 108 West 34th St., New York, N. Y. Dealers in new and used machinery.
*Peiffer & Co., P., 6 Columbia St., Newark, N. J. Mfrs. of hand presses, supplies and tools; also type.
*Peiper Machine Co., H., 1823 Olive St., St. Louis, Mo. Printers' machinists.
*Pelouze Printers Supply Co., Inc., 25 N. 12th St., Richmond, Va. Dealers in printers' machinery and supplies.
*Pelter, Charles, 71 Park Pl., New York, N. Y. Dealer in multi-color machinery. Printers' machinist. Typesetting service.
*Perfection Chute Spring Co., 2035 Parkdale Ave., Toledo, Ohio. Mfrs. of linotype specialties.
*Perfection Products Co., 116 Earl St., Rochester, N. Y. Mfrs. of "Inkoff." Dealers in supplies.
*Perfection Type, Inc., 141 E. 5th St., St. Paul, Minn. Mfrs. of type, supplies and accessories. Printers' machinists.

PERFECTION TYPE, INC., 141 E. 5th St., St. Paul, Minn.....129

Perkins & Son, Inc., B. F., Holyoke, Mass. Paper and board testing instruments.
Peninsular Paper Co., Ypsilanti, Mich. Cover and offset papers and colored specialties.
Philadelphia Felt Co., Wingshocking and "O" Sts., Frankford, Philadelphia, Pa. Litho flannel and molleton.
Philadelphia Thermometer Co., 915 Filbert St., Philadelphia, Pa. Industrial and type metal thermometers.
*Philwood Co., 3932 Seneca St., Los Angeles, Calif. Mfrs. of process powders and machinery.
*Pinnow & Co., 298 Broadway, New York, N. Y. Dealers in new and used machinery. Printers' machinists.
Pittsburgh White Metal Co., Inc., 3116 Penn Ave., Pittsburgh, Pa. Composing, stereotype and electrotype metals.
Pitney-Bowes—
Postage Meter Co., The, 723 Pacific St., Stamford, Conn. Mailing, metering, sealing, stamp affixing and cancelling machines.
*Photo-Engraving Equipment Supplies, 716 W. Indiana Ave., Philadelphia, Pa. Dealers in photo-engravers' machinery and supplies.
*Pitt, Inc., J. W., Bath, N. Y. Mfrs. of press bases and units.
*Pittsburgh Machine & Supply Co., 244 Third Ave., Pittsburgh, Pa. Dealers in machinery and supplies. Printers' machinists.
*Pleger Co., John J., 609 W. Lake St., Chicago, Ill. Mfrs. of ticket printing presses; bindery machinery.
*Post Mfg. Works, 671 Diversey Pkwy., Chicago, Ill. Mfrs. of envelope printing presses.
*Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y. Mfrs. of paper bag machinery for making, printing, waxing, pasting, gumming and gluing.
Powers Precision Lock-Up Furniture Co., Bayonne, N. J. Composition lock-up furniture.
Precision Machine Co., 4601 W. State St., Milwaukee, Wisc. Mfrs. of counting machines and special machinery.
Premier Flong Co., 258 Broadway, New York, N. Y. Stereotype dry mats; mats for color work.
*Premier Register Table Co., Inc., 170 Summer St., Boston, Mass. Mfrs. of line-up and register tables.
Printers' Equipment Mfg. Co., 1408 Adams St., Toledo, O. Composing room saw-trimmers, lead-and-rule and paper cutters.
*Printers Machine Corp., 70 W. 40th St., New York, N. Y. Mfrs. of feeders and Autopress parts.
*Printers Machinery & Sales Co., 1653 W. Grand Ave., Chicago, Ill. Dealers in used machinery.
*Printers Machinery & Supply Co., 723 First St., Detroit, Mich. Dealers in new and used machinery.
*Printers Machinery Corp., 410 S. Clinton St., Chicago, Ill. Dealers in machinery. Printers' machinists.
*Printers' Machinery Exchange, 500 Sansome St., San Francisco, Calif. Dealer in new and used machinery.
*Printers Mart, 4534 Ravenswood Ave., Chicago, Ill. Dealers in used machinery.
*Printers Mat Paper Supply Co. See Stereotype Equipment Co.
*Printers Supply Co., 37 S. Gay St., Baltimore, Md. Dealers in used machinery and supplies.
*Printers Supply Co., 306 S. 6th St., Minneapolis, Minn. Dealers in machinery and supplies.
*Printers Supply Co., Inc., 100 West 21st St., New York, N. Y. Dealers in used machinery.
*Printers Supply Co., Chatham and Hamilton, Racine, Wisc. Dealers in new and used machinery and supplies.
*Printers Supply Co., 106 N. 3rd St., St. Louis, Mo. Dealers in new and used machinery and supplies.
*Printers Supply Co., 523 E. 3rd St., Tulsa, Okla. Knife grinders. Dealers in printers' supplies.
*Printers Supply Corp., 340 E. 3rd St., Los Angeles, Calif. Dealers in machinery and supplies. Printers' machinists.
*Printers Supply Service, 719 S. Dearborn St., Chicago, Ill. Dealers in printers' supplies.

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O. Mfrs. of bases, rotary and offset presses; diagonal blocks; furniture and Sterling systems..... 13**

*Printing Press Extension Delivery Co., 447 W. 38th St., New York, N. Y. Mfrs. of extension deliveries for rotary presses.
*Printing Press Parts & Supplies, Inc., 225 High St., Boston, Mass. Dealers in parts and supplies.

PROBERT TYPESETTING CO., 211 S. Ludlow St., Dayton, O. Matrix reference cleaner for intertypes and linotypes.....129

Production Instrument Co., 1315 S. Wabash Ave., Chicago, Ill. Electric, mechanical and totalizing counters.
*Pugh, Norman A., 114 E. 13th St., New York, N. Y. Printers' machinist.

Q

*Quaker City Type Foundry, 212 Chancellor St., Philadelphia, Pa. Type founders.

R

Rapid Roller Co., Federal at Twenty-sixth, Chicago, Ill. Canvas covered, composition, rotogravure and rubber rollers.
*Ramsaier-Holland Corp., 134 W. 25th St., New York, N. Y. Dealers in used machinery. Printers' machinist.
*Rathbun & Bird Co., Inc., 85 Grand St., New York, N. Y. Rebuilt machinery. Printers' machinists.
*Ray-Co. Supply House, 231 W. Illinois St., Chicago, Ill. Type founders.
Reading Paper Mills, Inc., Canal and Pine Sts., Reading, Pa. Bond, book, cover, ledger, offset and specialty papers.
Reco Products Co., 136 N. 12th St., Minneapolis, Minn. Type metal cleaners.
Redimat Sales Co., 406 Burk Burnett Bldg., Fort Worth, Texas. Specialty stereotype mats.
Redington Co., F. B., 112 S. Sangamon St., Chicago, Ill. Mfrs. of counting machines.

***REID & CO., WILLIAM, 537 S. La Salle St., Chicago, Ill. Dealers in machinery and tools; printers' machinists 129**

*Reid Bros. Co., Inc., 140 Elliott St., Beverly, Mass. Mfrs. of grinding machines and replacement parts for linotypes.
*Reiner, Robert, Inc., 556 Gregory Ave., Weehawken, N. J. Importers of rotogravure presses.
*Reiner's Rotaprint, Inc., 192 Lexington Ave., New York, N. Y. Importers of automatic offset presses.
*Reith, Michael, 153 Franklin St., New York, N. Y. Printers' machinist.
*Reliable Printers Machinists, 191 Canal St., New York, N. Y. Printers' machinists.
*Reliable Printing Equipment Co., 942 Prospect Ave., Cleveland, O. Dealers in supplies.
*Reliance Machine Works, 1913 N. 83rd St., Wauwatosa, Wisc. Mfrs. of counting machines.
*Renz & Son, Fred, Glendale, L. I. Mfrs. of paper ruling machines.
*Repro-Art Machinery Co. See Max Levy & Co.
*Reusch Printing Mach'y. Co., Jacob., 104 E. Mason St., Milwaukee, Wisc. Dealers in used machinery. Machinists. Repair shop.
Revolvator Co., 340 Garfield Ave., Jersey City, N. J. Portable elevator, lift trucks and storage racks.
*Reynolds & Haas, H. G. See Miller Service.
Reynolds Metals Co., 19 Rector St., New York, N. Y. Metal foil papers and paper board; aluminum bronze powders.
Rex Metal Works, 117 Spokane St., Seattle, Wash. Composing machine and stereotype metals.
Rhoads & Sons, J. E., 35 N. Sixth St., Philadelphia, Pa. Flat and round leather belting and supplies.
*Rich & McLean, 60 Cliff St., New York, N. Y. Mfrs. of linotype specialties, magazines, moulds and liners.
*Rich & Wolf, Inc., 75 Beekman St., New York, N. Y. Printers' machinists.

***RICHARDS CO., J. A., 903 N. Pitcher St., Kalamazoo, Mich. Mfrs. of saws, tables, benders, creasers, etc. Paper box machinery, cutting forms and dies 129**

*Riebe Quoin Co., The, 122 N. Lamon Ave., Chicago, Ill. Mfrs. of quoins.
Riegel Paper Corp., 342 Madison Ave., New York City. Tympan and specialty papers.
*Riehl & Sons, Emile, 18 N. 6th St., Philadelphia, Pa. Dealers in machinery, type and supplies.
Roberts, Lewis, Inc., 72 Union St., Newark, N. J. Letterpress, lithographic, offset and water color inks; varnishes and driers.
*Roberts Numbering Machine Co., 694 Jamaica Ave., Brooklyn, N. Y. Mfrs. of numbering and dating machines and pencil pointers.
*Robertson, A. W., 461 Eighth Ave., New York, N. Y. Dealer in used machinery.

***ROBERTSON, R. R., 400 W. Madison St., Chicago, Ill. Mfrs. of cameras and equipment; photoengraving and newspaper machinery 117**

Robinson Co., John T., Hyde Park, Mass. Card, board and lithographic cutting, scoring and creasing machines.
*Rochester Printers Supply Co., 29 Market St., Rochester, N. Y. Dealers in machinery, supplies and accessories on commission.

ROCKAWAY CO., THE, 5409 W. Vliet St., Milwaukee, Wisc. Spaceband cleaning machines 17

*Rogers & Co., Inc., Samuel C., 191 Dutton Ave., Buffalo, N. Y. Mfrs. of grinding machines.
Rogers Isinglass & Glue Co., Gloucester, Mass. Photoengraving glue and top enamel.

ROLLED PLATE METAL CO., 196-210 Van Brunt St., Brooklyn, N. Y. Alloy, copper and zinc plates 119

Roosen Co., H. D., 78 20th St., Brooklyn, N. Y. Letterpress, lithographic and rotogravure inks; varnishes and driers.
*Roshack Co., F. P., 5th and Park Sts., Benton Harbor, Mich. Mfrs. of perforator, wire stitcher and punching machine.
*Rotogravure Engineering Corp., 1 Park Pl., New York, N. Y. Mfrs. of rotogravure presses.
*Rottger & Nashman, 101 Beekman St., New York, N. Y. Printers' machinists.

***ROUSE & CO., H. B., 2214 Ward St., Chicago, Ill. Mfrs. of band saws, cutters, miterers, composing sticks, paper lifts, conveyers, etc. 93**

Royle & Sons, John, Straight & Essex Sts., Paterson, N. J. Mfrs. of photo-engravers and electrotypers machinery.
*Rulex Type Corp., 549 S. Wells St., Chicago, Ill. Type founders.
*Russell Supply Co., Inc., 47 West St., New York, N. Y. Dealer in auxiliary distributor for Kelly presses.
*Rutherford Machinery Co., Inc., 100 Sixth Ave., New York, N. Y. Mfrs. of presses and other machinery. Division of General Printing Ink Corp.
*Ryan & Co., E. G., 727 S. Dearborn St., Chicago, Ill. Dealer in printing and duplicating equipment.
*Ryan, Joseph A., 8911 W. Chester Pike, Philadelphia, Pa. Dealer in used machinery.

S

*Sandblom Steel Chase Co., 426 S. Clinton St., Chicago, Ill. Mfrs. of chases.
*Schmutz Mfg. Co., 1600 W. Main St., Louisville, Ky. Mfrs. of presses, trademarking machines, bag turners, bag and cloth stencil machines.
*Schroeter & Bro., J. H., 223 Central Ave., Atlanta, Ga. Dealers in cutters, chases and bookbinders' job backers, new and used printing machinery.
*Schwenson Co., Inc, L. C., 268 41st St., Brooklyn, N. Y. Dealers in gluing and gumming machines.

***SCOTT, WALTER, & CO., South Ave., Plainfield, N. J. Mfrs. of color, newspaper, offset and rotogravure presses; cutting and creasing presses and stereotype machinery 62**

SEBASTIAN LATHE CO., 3rd and Philadelphia Sts., Covington, Ky. Machine tools, lathes and rubber roller grinding equipment 100

Selectasine Patents Co., 558 Sacramento St., San Francisco, Calif. Silk screen process presses.
Senefelder Co., Inc., The, 32 Greene St., New York City. Lithographic and letterpress inks; lithographic supplies.
Setter Bros., Inc., Cattaraugus, N. Y. Blocking wood.
Sevigne Machine Co., F. J., 41 Crown St., Nashua, N. J. Fruit, nut and carton printing machines and inks.
*Shallev Co., The, 328 Liberty Ave., Pittsburgh, Pa. Dealer in type, rules, borders and numbering machines.
*Sharp Tool Service Co., 5613 W. Lake St., Chicago, Ill. Knife grinders.
Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif. Mfrs. of stereotype machines.
Shawver Co., The, 21 W. Pleasant St., Springfield, O. Oval, circle, square and shear cutting machines.
*Sheridan Co., T. W. & C. B., 135 Lafayette St., New York, N. Y. Mfrs. of embossing presses, cutters, die presses, stitchers, coverers, binders, etc., for bookbinders.
*Shoemaker & Co., J. L., 15 S. 6th St., Philadelphia, Pa. Dealers in bookbinders machinery and supplies.
Showeard Machine Co., 1192 Merchandise Mart, Chicago, Ill. Showeard printing machines and supplies.
*Siebenthaler, T. L., 119 W. 14th St., Kansas City, Mo. Dealer in used machinery. Repairer. Mfr. of parts for linotypes and presses.
*Siebold Machine Co. See Harris-Seybold-Potter Co.
*Sigourney Tool Co., The. See Smyth Mfg. Co.
*Sigwalt Mfg. Co., 2011 N. Lawndale Ave., Chicago, Ill. Mfrs. of platen printing presses and seal presses.
*Simcoe Mfg. Co., Inc., 430 Race St., Philadelphia, Pa. Mfrs. of transformers, motors, static eliminators, heaters, sheet warmers, etc.
Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass. Paper cutter knives, cutting, creasing and perforating rule.
Simplex Gold Stamping Press Co., 425 Fourth Ave., New York, N. Y. Gold, color and blank specialty imprinting presses and supplies.

SIMONDS, WORDEN, WHITE CO., Dayton, O. Mfrs. of cutter knives 116

Simplex Time Recorder Co., Gardner, Mass. Job, cost and pavroll recorders; time stamps.
Sinclair & Carroll Co., Inc., 591 Eleventh Ave., New York City. Letterpress, lithographic and offset, water color and metallic inks; driers, compounds and varnishes.
*Sioux City Printing Co., 304 Pierce St., Sioux City, Ia. Dealers in supplies, wood furniture, etc.

SKF INDUSTRIES, INC., Front St. and Erie Ave., Philadelphia, Pa. Ball and roller bearings and transmission appliances 30

*Skidmore, Molitor & DeMott, 75 Cliff St., New York, N. Y. Printers' machinists.

***SLATER, H. ROBERT CO., 1419 Carrol Ave., Chicago, Ill. Mfrs. of equipment and supplies 123**

*Smith Co., F. X., 953 E. 93rd St., Brooklyn, N. Y. Mfrs. of chases, quoins, bars, keys and composing room supplies.
*Smith Co., George R., 431 S. Dearborn St., Chicago, Ill. Mfrs. of gas heaters. Dealers in new and used machinery and supplies.
*Smith, Kilby P., 516 Atlantic Ave., Boston, Mass. Importer of bronzing machines.
*Smyth Co., Joseph E., 343 S. Dearborn St., Chicago, Ill. Mfrs. of Booksewing machines and looping machines.
*Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn. Mfrs. of bookbinding machinery.
South Bend Lathe Works, 574 E. Madison St., South Bend, Ind. Lathes, including lathes for rubber roll grinding and polishing.
*Southeastern Printers Supply Co., 267 Trinity Ave., S. W., Atlanta, Ga. Mfrs. of stamp tax presses and perforating attachments. Dealers in new and used presses. Rebuilds and repairs.
*Southern Type & Supply Co., P. O. Box No. 524, Birmingham, Ala. Dealers in supplies.
*Southworth Machine Co., 30 Warren Ave., Portland, Me. Mfrs. of punches, cornering machines, cutters, joggers and special machinery to order.
Speed-E Cross Rule System, 407 E. Pico Blvd., Los Angeles, Calif. Mfrs. of cross rule machines.

SPEED PRODUCTS, INC., 437 E. 106th St., Cleveland, O. Stereotype scorchers 58

***STAHI NEWSPAPER SUPPLY CO., 417 Oregonian Bldg., Portland, Ore. Mfrs. of newspaper bases, mat formers and supplies 6-7**

Standard Engineering Works, Pawtucket, R. I., Humidifying systems and controls.
*Standard Machinery Co., The, Mystic, Conn. Mfrs. of bookbinding machinery and special machinery to order.
*Standard Numbering Machine Co., 563 Fairview Ave., Brooklyn, N. Y. Mfrs. of numbering machines.
Standard Printing Ink Co., The, 1644 Providence St., Cincinnati, O. Letterpress, lithographic and offset and steel die inks; driers and varnishes.
*Standard Process Co., 734 Mather St., Chicago, Ill. Mfrs. of rotogravure presses, grinding machines, transfer machines, and special machinery. Dealers in machinery.

***STAR TOOL WORKS, Shuey Bldg., Springfield, Ohio. Mfrs. of equipment and supplies 121**

*Static Eliminator Bar Co. See Utility Heater Co.
*Sta-Tite Fountain Divider Co., 629 Gough St., San Francisco, Calif. Mfrs. of fountain dividers.
Sta-Warm Electric Co., Ravenna, O. Electric glue pots and soldering irons.
*Steel, B. W., 1133 Maple Ave., Los Angeles, Calif. Mfrs. of controlled burners and rotary perforators.
*Stephens & Wickersham Quoin Co., 174 High St., Boston, Mass. Mfrs. of quoins, etc. Dealers in machinery.

***STEREOTYPE EQUIPMENT CO., 3628 Lincoln Ave., Chicago, Ill. Mfrs. of moulding presses, humidors, dryers, etc. Dealers in stereotype supplies 29**

*Sterling Printers Supply Co., 333 N. 15th St., Philadelphia, Pa. Dealer in supplies.
Sterling Rubber Products Co., The, 115 N. Jefferson St., Dayton, O. Stereotypers' blankets, press cutter rubbers, rubber linotype keyboard rolls and router belts.
*Sterling Type Foundry, 67 E. First St., Vermontville, Mich. Mfrs. of type.
*Stevens Co., Chas. N., 112 W. Harrison St., Chicago, Ill. Dealer in machinery.
*Stevens Type Co., F. H., 407 Atlantic Ave., Boston, Mass. Mfrs. of type. Dealer in machinery and supplies.
*Stewart Co., Don, 423 Sacramento St., San Francisco, Calif. Mfrs. of brass rule, etc. Dealer in machinery and supplies.
*Stiles, Charles L., 64 Hanford St., Columbus, O. Mfr. of gauge pins.
Stokes & Smith Co., Summerdale St., Philadelphia, Pa. Mfrs. of printing presses.
*Stolp-Gore Co., 710 W. Jackson Blvd., Chicago, Ill. Mfrs. of special machinery for printers and bookbinders. Dealers in machinery.
Stonhard Co., 401 N. Broad St., Philadelphia, Pa. Floor resurfacer.
*Storey, P. C., 84 University St., Seattle, Wash. Dealer in bindery equipment.
*Strait, H. H., 9510 Milton Ave., Overland, Mo. Mfr. of feed guides, gauge pins and quoins.
Strathmore Paper Co., West Springfield, Mass. Bond, book, cover, writing and specialty papers.
*Stripfounders, 1135 Cambridge Ave., Chicago, Ill. Mfrs. of type.
Stromberg Electric Co., 223 W. Erie St., Chicago, Ill. Time, recording and wall clocks; time stamps and elapsed indicators.
*Sullebarger Co., E. T., 116 John St., New York, N. Y. Dealer in photo-mechanical equipment and supplies.

SUPERIOR MFG. CO., P. O. Box 2491, Kansas City, Mo. Knife wipers and linotype and intertype parts. Machinists 129

Surty Mfg. Co., Inc., The, 4139 W. Kinzie Ave., Chicago, Ill. Guards for belts, grinding wheels, platen presses and saws.
*Swanson & Co., John, 709 S. Dearborn St., Chicago, Ill. Knife grinder.
*Swart, George R., 461 Eighth Ave., New York, N. Y. Dealer in bronzing machines. Agent for Christensen Machine Co.
*Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa. Mfrs. of printing frames for photo engravers and lithographers.
Swift, Jr., Inc., George W., Bordentown, N. J. Special printing presses and specialty machinery.
Swift & Sons, Inc., M., 10 Love Lane, Hartford, Conn. Gold leaf laying and stamping equipment; gold in leaf and roll form.
*S. & W. Machine Co., 414 E. Pearl St., Cincinnati, O. Dealers in new and used machinery. Repairs and service. Machinists.
*Sypher-Arcon Co., 1524 Fernwood Ave., Toledo, O. Mfrs. of saw-trimmers.

T

*Taylor Co., W. E., 209 W. 38th St., New York, N. Y. Mfrs. of rules and borders.
*Teague & Co., G. E., 2634 Olive St., St. Louis, Mo. Dealers in new machinery.

*Teletypesetter Corp., 1400 Wrightwood Ave., Chicago, Ill. Dealers in new machinery. Teletypesetter apparatus.

***TESCH MFG. CO., 2850 S. 20th St., Milwaukee, Wisc. Mfrs. of knife and saw grinding machinery. 27**

*Thompson Cabinet Co., Luke St., Ludington, Mich. Mfrs. of composing room equipment, electric backing and special woodwork.

*Thomson National Press Co., Dean Ave., Franklin, Mass. Mfrs. of job printing presses, embossers, die heaters, cutting and creasing machines.

*Thornton & Co., Seth, 606 Broadway, Kansas City, Mo. Dealers in used and rebuilt presses and machinery

*Time Saving Device Co., Inc., 599 Kenmore Ave., S. E., Warren, O. Mfrs. of ejector sets for linotypes.

TIMKEN ROLLER BEARING CO., THE, Canton, Ohio. Tapered roller bearings 16

Toledo Metal Furniture Co., The, 1100-1200 Hastings St., Toledo, O. Office and composing room furniture.

Toledo Scale Co., Toledo, O. Scales of all kinds.

*Tompkins, L. R., 608 S. Dearborn St., Chicago, Ill. Printers' machinist.

*Trapp & Kuehnle, 253 Pearl St., New York, N. Y. Mfrs. of chases and safety guards. Dealers in parts. Repairs and rebuilds machinery.

*Turbayne, W. H., 4 Rowes Wharf, Boston, Mass. Dealer in used machinery. Repairs and installations.

*Turner Type Founders, Inc., 1729 E. 22nd St., Cleveland, Ohio. Mfrs. of type. Dealers in new and used machinery. Rebuilds machinery.

*Turtle, David, 245 Seventh Ave., New York, N. Y. Dealer in supplies.

Twin City Printers Roller Co., 505 S. 3rd St., Minneapolis, Minn. Printers' rollers.

*Type Machine Maintenance Service, 318 W. Randolph St., Chicago, Ill. Repairer of machinery. Parts and service.

*Type & Press of Illinois, 632 Sherman St., Chicago, Ill. Dealers in new and used equipment and supplies.

*Typesetting Equipment Co., 245 Seventh Ave., New York, N. Y. Machinist. Repairer of linotypes, etc.

U

Ucab Distributing Corp., 1895 Federal St., Camden, N. J. Bundling, building-in and nipping presses; dynamic counter for folding machines.

Union Rubber & Asbestos Co., Trenton, N. J. Engravers rubber solution.

United American Metals Corp., 200 Diamond St., Brooklyn, N. Y. Composing machine, electrotype and stereotype metals; metal flux.

United States Envelope Co., Springfield, Mass. Envelopes and paper specialties.

***U.P.M.-KIDDER PRESS CO., INC., 121 Broadway, Dover, N. H. Mfrs. of printing machinery and sales registers 118**

*Unique Steel Block Co., Waverly, N. Y. Mfrs. of register base for presses, chase blocks, clamps, etc.

U. S. Mfg. Co., 129 E. Market, Indianapolis, Ind. Non-returnable core chucks.

*Utility Heater Co.' 239 Center St., New York, N. Y. Mfrs. of heaters, oxidizers, neutralizers, etc. Dealers in new and used machinery. Repairs, etc.

V

***VANDERCOOK & SONS, INC., 900 N. Kilpatrick Ave., Chicago, Ill. Mfrs. of proof presses, etc. 79**

Vapo Systems, 842 Gunderson Ave., Oak Park, Ill. Spraying equipment for paper webs on presses.

Veeder Root, Inc., Hartford, Conn. Counting devices.

*Vertical Service Co., 423 Plymouth Ct., Chicago, Ill. Repairs and services Miehle presses.

*Verrinder, E. A., 827 Alvarado St., Redlands, Calif. Mfrs. of feed tables.

Vierangel Machine Co., Inc., M., 360-68 Troutman St. Brooklyn, N. Y. Specialty machinery.

Vion Safety Quoin Co., 71 Summit Ave., Jersey City, N. J. Mfrs. of quoins.

Vogt Roller Co., Inc., 222 S. 12th St., Louisville, Ky. Composition and rubber rollers.

*Vorwerk, R. W., 632 Sherman St., Chicago, Ill. Dealer in printing machinery, equipment and supplies. Repairs, etc.

VULCAN PROOFING CO., 58th St. and 1st Ave., Brooklyn, N. Y. Litho, offset, make-ready and newspaper blankets; rubber rollers 91

W

*Wagner & Christensen, 57 Beekman St., New York, N. Y. Printers' machinist.

*Wagner, Litho Machinery Co., Inc., Chas., 51 Park Ave., Hoboken, N. J. Mfrs. of litho machinery and supplies, presses, ovens, varnishing machines, etc.

*Walker Supply Co., E. H., 930 H St., N. W., Washington, D. C. Dealer in supplies and equipment.

Wallace & Co., J. D., 134-158 S. California Ave., Chicago, Ill. Electric glue pots; circular, jig and band saws.

*Wallin, G. E., 807 N. 35th St., Omaha, Nebr. Mfr. of composing room equipment.

*Wallmueller, Fritz, 63 W. Broadway, Salt Lake City, Utah. Printing press machinist.

*Wanner Co., The, 720 S. Sherman St., Chicago, Ill. Rebuild used machinery and equipment. Dealers in new and used machinery, equipment and supplies. Mfrs. of wire.

Wapakoneta Machine Co., The, Wapakoneta, O. Paper knives.

Ward & McLean, 91 Main, Lockport, N. Y. Looping machines.

WARDWELL MFG. CO., 3167 Fulton Rd., Cleveland, O. Saw-filing equipment 124

*Warnock Co., W. S., 1524 Jonquil Ter., Chicago, Ill. Mfrs. of printing plate mounting equipment, chases, bases, and register hooks.

*Waters, Edward T., 1807 Pinkey St., Omaha, Nebr. Mfrs. of vice jaw lock for linotypes.

Wax Refining Co., 720 S. Dearborn St., Chicago, Ill. Wax inks and driers.

*Weatherly, S. M., 101 Beekman St., New York, N. Y. Dealer in Acme heaters.

*Webendorfer-Wills Co., Inc., 2 South St., Mt. Vernon, N. Y. Mfrs. of sheet fed cylinder presses, offset and web offset presses, electric motors, switches, etc.

*Weber, Charles, 245 Seventh Ave., New York, N. Y. Printers' machinist.

Wenrung & Billmeier Co., 3624-30 Lincoln Ave., Chicago Ill. Gold leaf.

*Weigl, George, 24 E. 13th St., New York, N. Y. Printers' machinists. Repairs.

*Weinstein Machinery Co., H., 46 Wooster St., New York, N. Y. Dealers in used printing, litho, paper box and linotyping machinery. Repairers.

*Weiss, Louis, 1640 Ocean Ave., Brooklyn, N. Y. Printers' machinist.

*Welch, C. L., Route 3, Box 347A, Pleasantville, N. J. Mfrs. of gauge pins and guides.

Weldon, C. F., Geneva St., Lake Geneva, Wisc. Quoin chase and printing ink equalizer.

*Wells & Co., 536 S. Clark St., Chicago, Ill. Mfrs. of Cross rule form machine.

Wepsco Steel Products Co. See Western Pipe & Steel Co.

*Wesel Mfg. Co., F., Scranton, Pa. Mfrs. of presses, leveling stands, shears and machinery for graphic arts.

Welsh, C. L., Pleasantville, N. J. Guides for printing presses.

Western Pipe & Steel Co., 2824 Vermont St., Blue Island, Ill. Mfrs. of composing room furniture.

*Western Printing Machine Works, 509 Broadway, Kansas City, Mo. Dealers in used machinery and supplies. Repairs and rebuilds machinery.

*Western Roller & Machine Co., 615 19th St., Denver, Colo. Mfrs. of rollers. Dealers in printing and typesetting machinery.

***WETTER NUMBERING MACHINE CO., Atlantic Ave. and Logan St., Brooklyn, N. Y. Mfrs. of numbering machines 29**

*White Mfg. Co., 1227 W. Beardsley Ave., Elkhart, Ind. Mfrs. of type-high planers.

Whiting Paper Co., Holyoke, Mass. Bond, book, ledger, linen and writing papers; papeteries and bristols.

Whiting-Plover Paper Co., Stevens Point, Wisc. Bond cover, ledger, onion skin and writing papers.

*Wiebking Engraving Co., 1133 Newport Ave., Chicago, Ill. Mfrs. of matrices for typesetting and typemaking machines.

*Wiedemann Quoin Co., The, 44 Webster St., Revere, Mass. Mfrs. of quoins.

*Wiklander Co., Carl G., 559 W. Lake St., Chicago, Ill. Machinist. Dealer in used presses.

Wild & Stevens, Inc., 5 Purchase St., Boston, Mass. Letterpress, newspaper, offset and lithographic rollers.

*Williams, J. See Hammond Machinery Builders.

*Willsea Works, 1042 University Ave., Rochester, N. Y. Mfrs. of special machinery.

*Wing's Sons, Chauncey, 78 Pierce St., Greenfield, Mass. Mfrs. of addressing and mailing machines used by newspaper and magazine publishers.

Winn & Goodman, 350 Sansome St., San Francisco, Calif. Composition rollers and padding composition.

*Woerner & Nelson, Inc., 380 Canal St., New York, N. Y. Dealers in used machinery. Machinists, repairs and service.

*Wolfe, Wm. H., 380 Canal St., New York, N. Y. Dealer in used machinery. Machinist, repairs and service.

WOOD FLONG CORP., Hoosick Falls, N. Y. Stereotypers dry mats 111

***WOOD NEWSPAPER MACHINERY CORP., 501 Fifth Ave., New York, N. Y. Mfrs. of web presses and stereotyping equipment 12**

*Wood & Nathan Co., Inc., 112 Charlton St., New York, N. Y. Dealers in machinery.

Wrenn Paper Co., The, Middletown, O. Blotting paper.

*Wright, Jr., Wm. J., 161 W. Harrison St., Chicago, Ill. Dealer in printing and bookbinding machinery.

Wrigley Co., The Thomas, 609 W. Lake St., Chicago, Ill. Mfrs. of bindery machinery.

*Wundes Sons, A., 141 Front St., Rochester, N. Y. Knife grinders.

Y

Yeager Process Co., Marion, O., Roller fabric covering.

*Young Engineering Co., 1010 George St., Chicago, Ill. Mfrs. of special printing machines.

Z

*Zanetti Machine Works, J., 1701 Kirkwood Ave., San Francisco, Calif. Mfrs. of ruling machines, feeders and routing machines. Dealers in machinery. Repairers.

*Zarkin Machine Co., Inc., 365 Cherry St., New York, N. Y. Mfrs. of graining machine for litho trade.

*Zeigler & Son Machine Co., R., 210 Vine St., St. Louis, Mo. Machinists. Repairs and service.

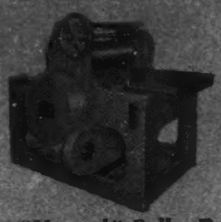
ZELLNER FOUNDRY CO., THE, 2088 Scranton Rd., Cleveland, O. Metal remelting equipment 129

Zenke, H. C., 8927 120th St., Richmond Hill, New York City. Stereotype plate and depth gauge.

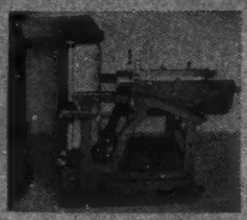
*Zifchock, Joseph G., Herald Square, Pascoag, R. I. Dealer in used machinery and supplies.

*Zimmer Printers Supply Co., 72 Beekman St., New York, N. Y. Dealers in machinery, type, dies, cabinets, rules, etc.

Quality Printing



Hoe "Monarch" Roller Bearing Matrix Rolling Machine

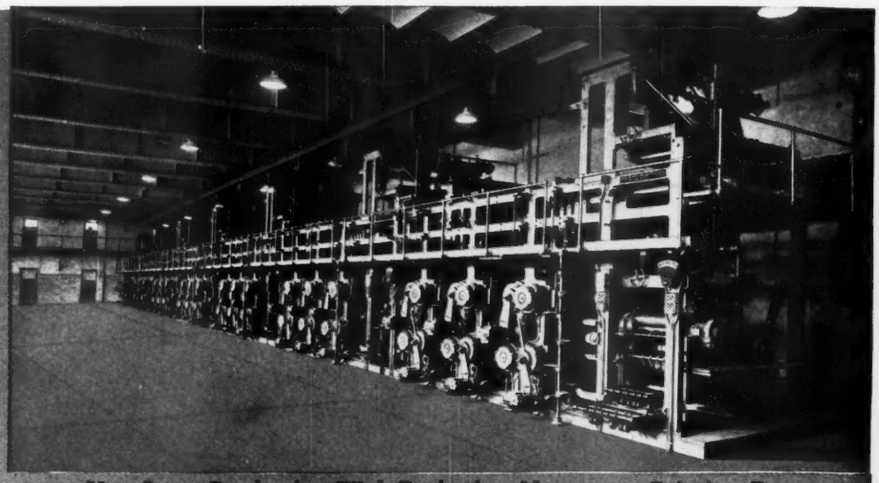


Hoe Vacuum Curved Casting Mould and Electrically Heated Spout

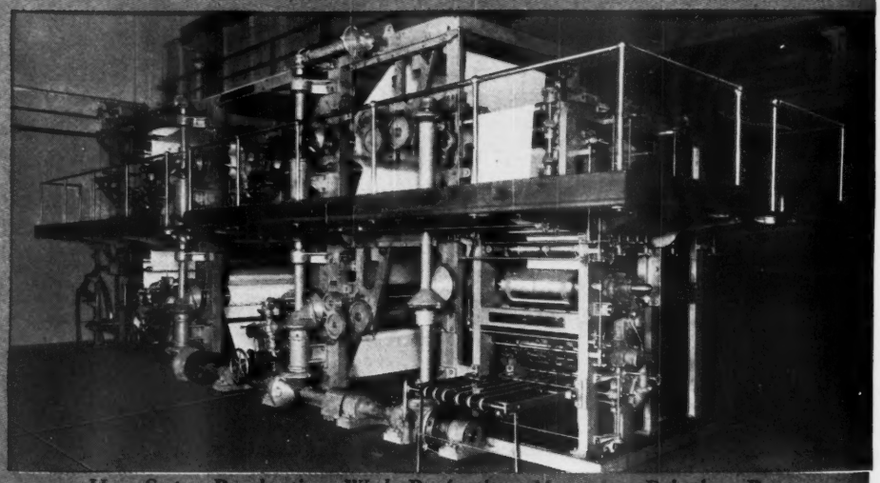
Hoe Precision Curved Shaver and Cutting-Off Machine

Hoe Duplex Beveling Machine

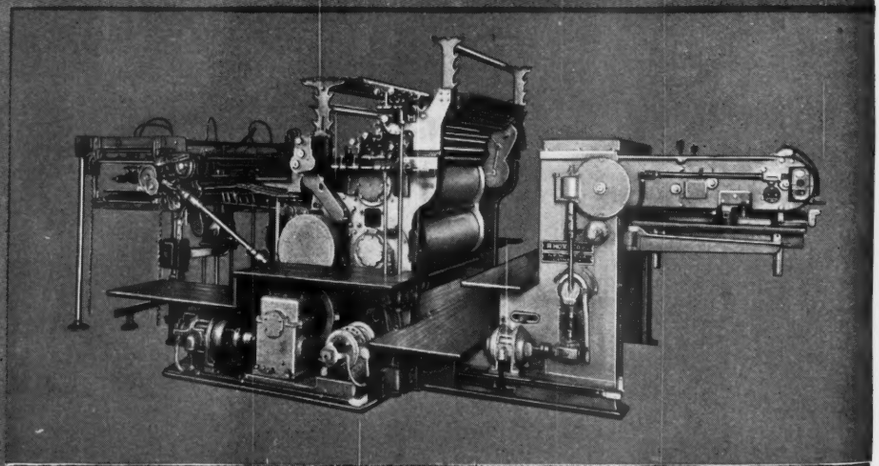
Hoe Precision Flat Shaving Machine



Hoe Super-Production Web Perfecting Newspaper Printing Press



Hoe Super-Production Web Perfecting Magazine Printing Press

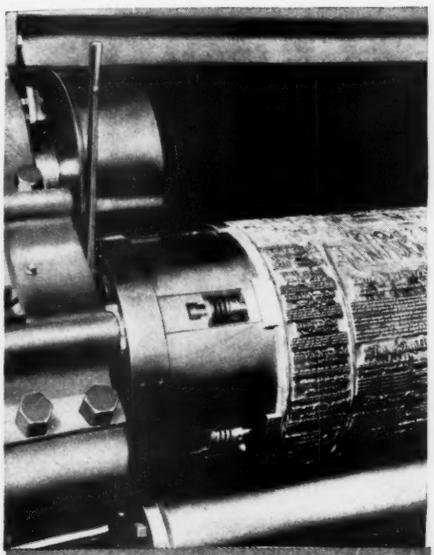


Hoe Super-Offset Press

at High Speed...

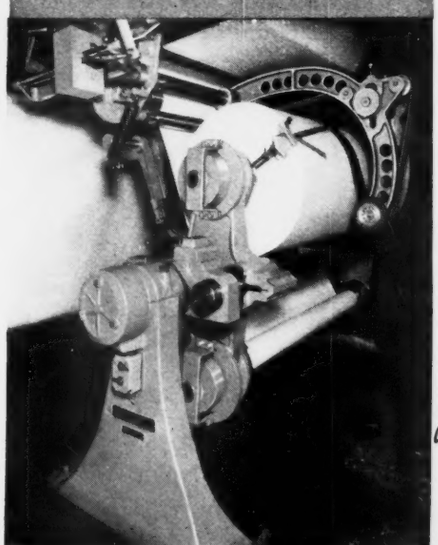
WITH

SAFETY



HOE INSTANTANEOUS PLATE LOCK-UP

provides the easiest and fastest means for obtaining a positive lock-up. It is as simple as ABC to operate and easy to install on existing newspaper presses.



HOE FULL-SPEED PASTER

is simple, economical and efficient. It can be applied to presses now in use.

Hoe printing presses are serving throughout the world in ever-increasing numbers, because they have successfully provided for the finest quality of printing. They do this rapidly, economically and with safety. In the Hoe Super-Production Newspaper and Magazine Presses, in the Hoe Super-Offset Presses, in the Hoe Single and Multi-color Intaglio Presses, Hoe has incorporated the accumulated experiences of more than 100 years of service to leading printers the world over. The full benefit of the superior design and construction is realized in the manufacture of Hoe Presses due to the use of the most modern machinery and methods in the world's largest printing press plant.

In plate making equipment, the Hoe products embrace a complete new line of precision-built stereotyping machinery such as curved and flat moulds of both the plain and vacuum type, flat shavers, curved shavers, as well as the newly-developed combination curved shaver and cutting-off cylinders, curved bevelers for regular and "bleed" pages, new type insulated furnaces especially adapted for electrically-heating or immersion gas heating, electrically-heated pump spouts, saw tables and mat moulding machines, some of which are displayed on these pages; in fact, a complete line of equipment for the newspaper, magazine and periodical publishers and printers, including electrotyping and photo-engraving equipment as well as supplies and accessories for both the pressroom and plate making departments.

Hoe also builds Single and Two-Color Metal Decorating Presses for tin and sheet metal stock up to 26" x 34". These presses embody the very latest improvements in this type of equipment.

R. HOE & Co., Inc.

General Offices
138th Street
and East River
New York City

BOSTON SAN FRANCISCO CHICAGO

SPEED Electric Scorchers

● When you need a scorcher, by all means investigate Speed Electric Scorchers. Instead of judging a scorcher by its price, determine its value by the results compared to other types and makes of much higher price. That's how we prefer to have Speed Scorchers judged. Although less expensive than other machines of this kind, they produce desired results equal to any.

● Speed Scorchers show an economy in time and operating costs and a saving of mats. They have balanced heat—greater air cushion—simplicity—durability and are substantially built and easily operated. Note particularly the simple construction—and yet they are built to give years of service.

● Speed Electric Scorchers are faster because the electric heat is scientifically applied. They are economical, durable, and very easy to operate. No extras to get out of order. Study the specifications of these three scorchers below. Determine which best fits your requirements, then send for complete description and prices.

●

SPEED
LATEST IMPROVED
MODEL

Model 43-SP-4

This latest Model Speed Electric Scorcher is easier to operate and is most reliable due to positive action.

Asbestos on the hot bed is made with a slight depression between ends as a protection against mat crushing, column concaving, and buckle forming. The new cover is flexible, self-fitting, floating type assuring absolute perfect fit at all times. Cover is an asbestos cloth and screen, floated inside rigid outer metal cover slightly larger to allow floating cover to form properly. Has four-heat manual control. Heating elements have maximum input of 3000 watts (3 K.W.) balance for even distribution and consume no more current than necessary for the amount of input required. Hot Bed can be instantly removed making heating elements readily accessible.

SPEED STANDARD FLAT and
SUPER-SPEED FLAT MODELS

Model B—1382 and S. S. 2.

These Flat Bed models are equipped with three-heat controls. The heating unit gives uniform heat distribution and has maximum input of 1500 to 2250 watt. It is solidly built, easily operated, simply constructed, easy access to heaters. The best Flat Bed Model that money can buy.

SPEED STANDARD CURVED
SUPER-SPEED MODEL

Model A-1382 and S.S.3-A

An extremely popular model with real economy over other types of scorcher. One plant figures a saving of $10.00 per month per unit. On this basis it will pay for itself in about one year. Furnished only with three-heat control. Has 2000 watt (2 K.W.) input. Super Speed Model has 3000 watt (3 K.W.) input.

• • • SPEED PRODUCTS, INC. • • •

437 East 106th Street **Cleveland, Ohio**

Printing EQUIPMENT *Engineer*

1935

Equipment and Supplies Reference Number

PRODUCTS INDEX

For the Printing Equipment and Supplies Trade

To the Production or Mechanical Executive:

In the following pages will be found a helpful Products Index. Under each major classification are printed the names of the manufacturers (as far as we can locate them) furnishing that particular equipment, machine or supply.

This Products Index has been compiled for *you* without charge to the manufacturer so that you can locate any product and its manufacturer as quickly as possible. Consult the index often and use it freely when in need of information.

Each advertiser represented in this issue of *Printing* EQUIPMENT *Engineer* is listed in the Products Index in bold-face type under the suitable products headings together with the page number upon which the advertisement appears. Turn to the advertisement as indicated in the Products Index to assist you in finding the information of which you are in need.

We urge our production and mechanical executive readers in all cases to use the advertisements in conjunction with the Index to obtain the fullest information possible.

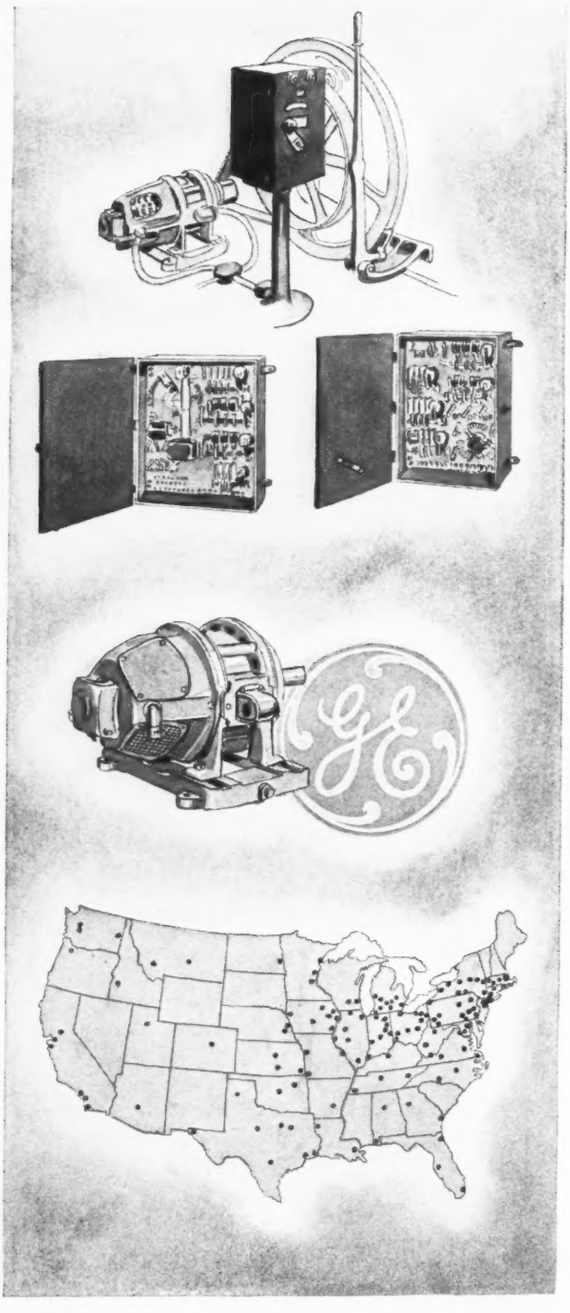
As is stated in the Manufacturers' Index each company listing preceded by an asterisk (*) is either a member of the National Printing Equipment Association, Inc., or is subject to the jurisdiction of the Code for the Printing Equipment Industry and Trade. This is done for code organization convenience.

While every care has been taken to see that all listings are correct, *Printing* EQUIPMENT *Engineer* cannot be responsible for any omissions or errors.

—*Editor.*

MOTORS and CONTROL

IN BOOK AND JOB PLANTS



1. You can depend on General Electric, world's largest manufacturer of electric equipment, to supply the right drives and the correct control for your presses and machines. General Electric carefully matches electric equipment to the characteristics of individual presses—for satisfactory performance.

2. G-E preset speed controllers are simple and convenient for your pressmen to use. Easy regulation of press speeds to accommodate different classes of work is obtained through adjusting-devices on the fronts of the controllers. These controllers provide high starting torque and a wide operating-speed range, with slow-down speeds of 25 to 30 per cent—features which will speed up production and mean better press work in your plant.

3. Backed by the G-E monogram and built to rigid standards of quality, G-E motors give continuous operation that saves time and money. Teamed with G-E controllers they offer press-drive equipment which combines efficiency of operation, low maintenance, and long life.

4. Prompt, efficient service when it is needed is available to you through General Electric's nationwide system of sales offices, service shops, and warehouses. Let our printing-equipment specialist in the nearest G-E office help you.

G E N E R A L

FOR EVERY PRESS

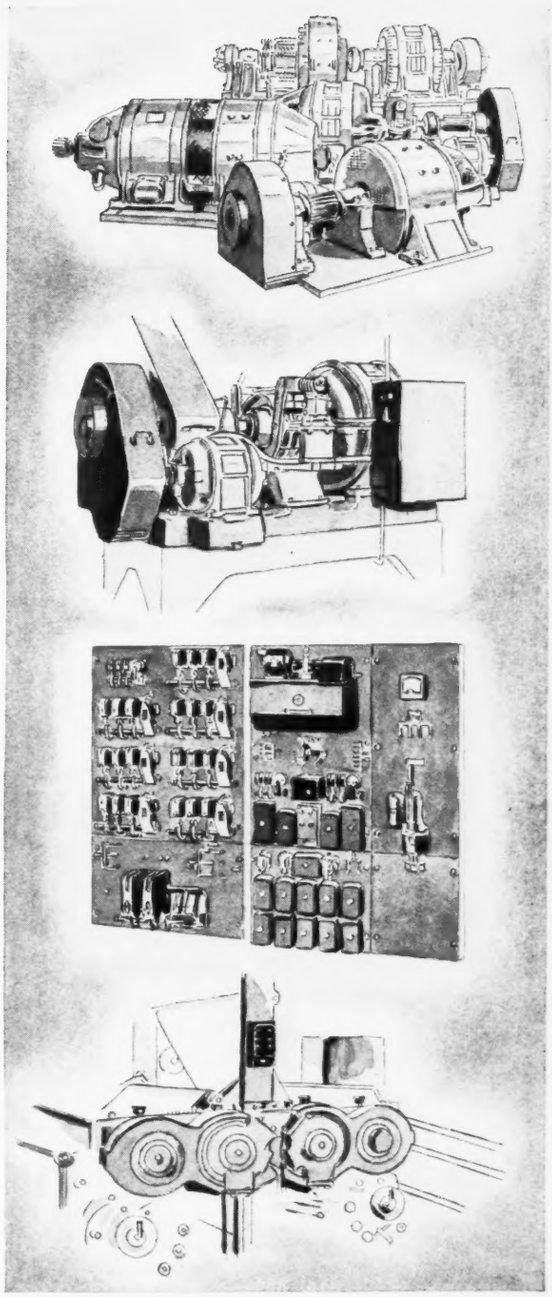
IN NEWSPAPER PLANTS

1. General Electric's policy of manufacturing a complete line of newspaper press-drive equipment—both a-c. and d-c.—enables you to get the type of drive best suited to the individual requirements of your plant, power supply, and presses.

2. If you are in a position to utilize alternating current, General Electric double-motor a-c. drives, tried and proved in the country's largest newspaper plants, will save you money and give you the smooth, continuous operation that contributes so much to pressroom efficiency. Other types of G-E drives — double motor d-c., variable-voltage, and unit-type drives with electrical tie-in — are equally reliable and efficient.

3. G-E full-automatic alternating-current controllers have proved their worth by giving satisfactory service under all operating conditions in scores of newspaper plants. Other types of G-E controllers are equally well-known for efficiency and satisfactory performance.

4. Sturdy, well-built G-E push-button stations on your presses tell the world that your presses are controlled by the most accurate and most flexible controllers yet developed. For all electric equipment for your plant, see General Electric. General Electric Company, Schenectady, N. Y.



020-112

GENERAL ELECTRIC

For Newspaper and Color Printing
Scott Units Lead the World

Scott Units, built on the best basic design as shown by the general trend in Newspaper Presses, are highly developed to do good printing at all speeds. They employ all modern engineering advances and all parts are built interchangeably, which guarantees the most advanced design and the finest workmanship.

Scott "Extra-High-Speed" Models have most of their mechanism, such as ink vibrating apparatus, oil pumps and gearing, fully enclosed and running in oil.

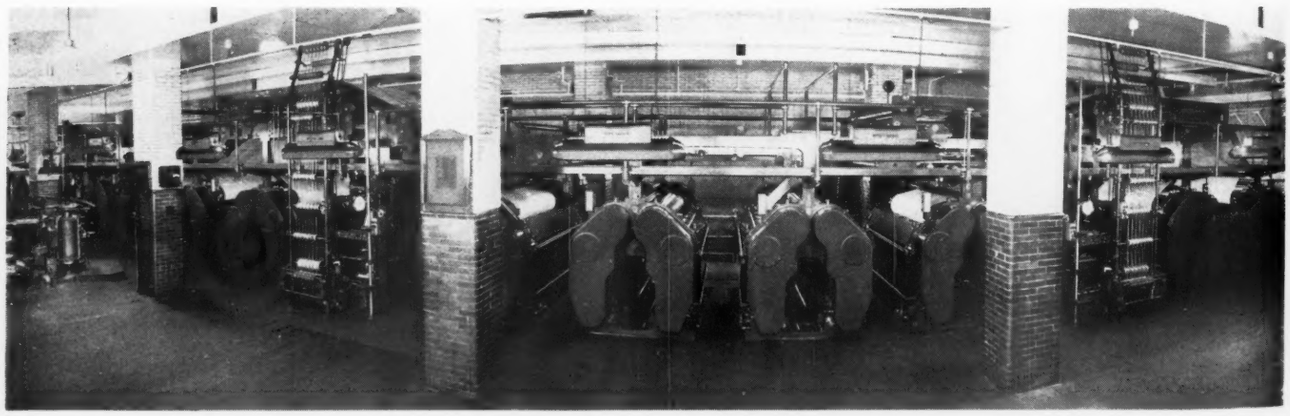
We also manufacture High-Speed Rotary Intaglio and Magazine Presses, Automatic Web Tensioning Devices, Reels, Rotary Wire Stitchers for Web Presses, Matrix Rolling Machines, Hydraulic Matrix Presses, etc., etc., including most equipment used in the Heavy Printing Industry.

We shall be pleased to receive your inquiries.

WALTER SCOTT & COMPANY

Plainfield, New Jersey

New York Office: 230 West 41st Street **Chicago Office: 1330 Monadnock Building**
Codes Used: ABC (5th Edition) and Our Own **Cable Address: Walscott, N. Y.**



A

ACCORDION FOLDING MACHINES
See Feeders, Folders, etc.

ABSORBERS, INK AND WAX MIST, DUST AND FUMES
See Air and Paper Conditioning Equipment.

ADDRESSING MACHINES
*Challenge Machinery Co., The, Grand Haven, Mich.
Cheshire Mailing Machines, 1016 N. Dearborn St., Chicago, Ill.
Dick's Patent Mailer, 137 W. Tupper St., Buffalo, N. Y.
*Payyer Printing Machine Works, 600 S. Broadway' St. Louis, Mo.

ADHESIVES
Glue, Gums, Paste and Padding Compound
a. Dextrine *d.* Padding Composition
b. Glues *e.* Paste
c. Gums *f.* Rubber Cement
Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, Ohio — *d.*
Burrage, Robert R., 15 Vandewater St., New York City — *b-d.*
Findley, The, F. G., Co., 1243 N. 10th St., Milwaukee, Wisc.— *b-c-d-e.*
Fuller, H. B., CO., 186-190 W. Kellogg Blvd., St. Paul, Minn.— *b-c-d-e.*
Globe Printers Roller Co., Inc., 154 Purchase St., Boston, Mass.— *d.*

GODFREY ROLLER CO., 211-15 Camac St., Philadelphia, Pa.— *d.* **123**

Green's Paste Works, 2912 S. Salina St., Syracus, N. Y. — *b-d.*

HART, WILLIAM C., CO., 137 Greene St., New York City — *b-d-e* **106**

Hewett, C. B., & Bros., Inc., 23 Greene St., New York City — *b.*
Hoyt, Arthur S., Co., Inc., 175 Fifth Ave., New York City — *c.*
Johnson, Wm. R., Co., Inc., 72 Columbia St., Seattle, Wash.— *b-g.*
Rogers Isinglass & Glue Co., Gloucester, Mass.— *b.*

ADJUSTABLE SPEED MOTORS
See Dynamos, etc.

AGITATORS, INK
See Ink Agitators.

AIR BRUSHES
See Offset Preventing Equipment.

AIR AND PAPER CONDITIONING EQUIPMENT
Advance Mfg. Co., Inc., 350 N. 26th St., Louisville, Ky.
American Blower Corp., 6000 Russell St., Detroit, Mich.
Bristol Co., The, Waterbury, Conn.
Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.
Marathon Electric Mfg. Co., P. O. Box 440, Wausau, Wisc.
*Offen, B., & Co., 608 S. Dearborn St., Chicago, Ill.
R. I. Humidifier & Vent Co., 99 Chauncey St., Boston, Mass.
Standard Engineering Works, Pawtucket, R. I.
*Southworth Machine Co., 30 Warren Ave., Portland, Me.
Vapo Systems, 842 Gunderson Ave., Oak Park, Ill.
*Willsea Works, The, 1042 University Ave., Rochester, N. Y.

AIR PUMPS
See Pumps.

ALL SIZE SHEET ROTARY PRESSES
See Printing Presses.

ALUMINUM ALLOY METAL FURNITURE
See Plate Mounting Equipment.

ALUMINUM BOOK BLOCKS
See Plate Mounting Equipment.

ALUMINUM DIE FORMS
See Carton and Paper Box Makers Machinery.

ALUMINUM, COPPER AND ZINC PLATES
American Zinc Products Co., Greencastle, Ind.

EDES MFG. CO., THE, Plymouth, Mass. **104**

ROLLED PLATE METAL CO., 196 Van Brunt St., Brooklyn, N. Y. **119**

ALUMINUM TYPE
See Type.

AMUSEMENT TICKET PRINTING AND FINISHING MACHINES
See Printing Presses.

ANTI OFFSET COMPOUND
See Ink.

ANTI-OFFSET PREVENTING EQUIPMENT
See Offset Preventing Equipment.

ARC LAMPS
See Cameras.

ARTIFICIAL LEATHER
See Cloth, Inc.

ARTISTS' SHADING SHEETS
See also Shading Sheets for Drawings and Proof.

BOURGES SERVICE, INC., 175 Fifth Ave., New York City **114**

ART PROOF PRESS
Proof and Test Presses.

ASSEMBLING, COLLATING AND GATHERING MACHINES
Christensen Machine Co., The, 100 4th St., Racine, Wisc.
*Dexter Folder Co., 28 W. 23rd St., New York City.
*Sheridan, T. W., & C. B., Co., 135 Lafayette St., New York City.

AUTOGRAPHIC REGISTER ROLL PRINTING AND MAKING MACHINES
See Printing Presses.

AUTOMATIC FOLDING MACHINES AND FEEDERS
See Feeders, Folders, etc.

AUTOMATIC FOUR-CORNER CUTTERS
See Cutting and Trimming Machines.

AUTOMATIC LABEL EMBOSSING AND PRINTING PRESSES
See Printing Presses.

AUTOMATIC MULTIPLE COLOR PRINTING, PUNCHING, DIE CUTTING, DIE PUNCHING, LENGTH AND CROSSWAY CUTTING MACHINES
See Printing Presses.

AUTOMATIC PAPER CUTTERS
See Cutting and Trimming Machines.

AUTOMATIC PRESS CHASES
See Chases, etc.

AUTOMATIC PRESSES
See Printing Presses.

AUTOMATIC PRINTING AND TABBING MACHINES
See Printing Presses.

AUTOMATIC UNITS
See Feeders.

AUTOMOBILE ROAD MAP FOLDERS
See Feeders, Folders, etc.

AUTO PLATE METAL
See Metals.

B

BACK MAKING MACHINES FOR BLANK BOOKS
See Bookbinding Machinery.

BACKING CLOTH
See Cloth, etc.

BACKING MACHINES, JOB AND ROLLER
See Bookbinding Machinery

BAG MAKING MACHINERY

***COTTRELL, C. B., & SONS CO., Westerly, R. I. 64-65**

Heirrich, H. H., Inc., 200 Varick St., New York City.
*Meisel Press Mfg. Co., 944 Dorchester Ave., Boston, Mass.
*Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y.
*Schmutz Mfg. Co., 1600 W. Main St., Louisville, Ky.

BAG MAKING AND PRINTING MACHINERY
See Printing Presses.

BALING PRESSES, CONTAINERS AND TIES FOR WASTE PAPER
Business Men's Paper Press Co., Wayland, Mich.
*Logemann Bros., Co., Inc., 3150 W. Burleigh St., Milwaukee, Wisc.

BANDING AND BUNDLING PRESSES
*Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.
*Berry Machine Co., 716 N. First St., St. Louis, Mo.
*Dexter Folder Co., 28 W. 23rd St., New York City.
Hall, A. W., Co., 1155 Fulton St., Chicago, Ill.
*Hudson-Sharpe Machine Co., Inc., 1207 Main St., Green Bay, Wisc.
*Sheridan, T. W., & C. B., Co., 135 Lafayette St., New York City.
Ucab Distributing Corp., 1895 Federal St., Camden, N. J.

BAND SAWS
See Sawing and Trimming Machinery.

BANK CHECK IMPRINTING MACHINES
See Printing Presses.

BASE HIGH CHASES
See Chases.

BASES AND HOOKS
See Plate Mounting Equipment.

BEARINGS FOR ALL KINDS OF EQUIPMENT
a. Ball Bearings *b.* Roller Bearings

S.K.F. INDUSTRIES, INC., Front St. and Erie Ave., Philadelphia, Pa.— *a-b* **30**

TIMKEN ROLLER BEARING CO., THE, Canton, Ohio — *b* **16**

BEARERLESS AND BEDLESS PROOF PRESSES
See Proof and Test Presses.

BED AND PLATEN PRESSES
See Printing and Presses, Belts and Belting.

BELTS AND BELTING
a. Cord Rubber — Line Casting *d.* Fabricated
b. Linotype Angle Drive Converters. *e.* Belt Dressing
c. Leather

ACE BELTING CO., 4300 Washburn Ave., N., Minneapolis, Minn.— *a-b* **29**

Dixon Crucible Co., Jos., Jersey City, N. J.— *e.*
Manhattan Rubber Mfg. Div., The, Raybestos-Manhattan Inc., 61 Willett St., Passaic, N. J.— *d.*
Rhodes, J. E. & Sons, 35 N. 6th St., Philadelphia, Pa.— *c.*
*Royle, John, & Sons, Straight and Essex Sts., Patterson, N. J.— *c.*
Sterling Rubber Products Co., The, 115 N. Jefferson St., Dayton, O.— *a.*

BELTLESS ROTARY TYPE HIGH PLANERS
See Sawing, Trimming, etc., Machinery.

BENCH BUNDLING PRESSES WITH JOGGING TABLE
See Banding and Bundling Presses.

BENCH LEVER STAMPERS
See Die Stamping, etc., Presses.

BENCH PAPER CUTTERS
See Cutting and Trimming Machines.

BENCH SAWS
See Sawing, Trimming, etc., Machinery.

BENCHES, DRAWER AND LEGS
See Cabinets, etc.

BENDING OR CURVING MACHINES, METAL AND PLATE
See Stereotypers' Machinery.

BENDING MACHINES FOR BOARD
See Bookbinding Machinery.

BENZINE CANS (Safety Valve)
See Cans.

BEVELING MACHINERY (FOR BOARD)
See Bookbinding Machinery.

BEVELING MACHINERY (FOR METAL)
See Electrotyper-Photo-engravers' and Stereotypers' Machinery.

BINDERS (CONTINUOUS BOOK)
See Bookbinders' Machinery.

BINDERS BOARD
See Paper and Board.

BINDERY EQUIPMENT
See Bookbinding Machinery.

BINDERY TRUCKS
See Trucks.

BINDING SCREWS
See Loose Leaf Metal, etc.

BINDING TAPE (FOR CHARTS, MAPS, ETC.)
See Cloth, etc.

BLACK JACK, STRIPS
See Stereotypers' Machinery, etc.

BLACK AND WHITE MATRICES
See Matrix (black and white)

BLANKETS
a. Press *c.* Offset
b. Stereotyping *d.* Underpacking
Acme Press Blanket Co., 117 N. Wells St., Chicago, Ill. — *a-d.*
*Acme Multicolor Co., 117 N. Wells St., Chicago, Ill.— *a*

AMERICAN PUBLISHERS SUPPLY, P. O. Box 131, West Lynn, Mass.— *a-b* **14-15**

BEHR-MANNING CORP., Troy, N. Y.— *a* **92**

FITZ PATRICK FELT MFG. CO., 4024 Hamilton Ave., Cleveland, O.— *a* **126**

GOODRICH, B. F. RUBBER CO., Akron, O.— *c* **20**

GOODYEAR TIRE & RUBBER CO., INC., Akron, O.— *a-d* **32**

Sterling Rubber Products Co., The, 115 N. Jefferson St., Dayton, O.— *b.*
Tingue-Brown & Co., 118-120 E. 25th St., New York City — *a-d.*

VULCAN PROOFING CO., 58th St. and First Ave., Brooklyn, N. Y.— *a-c* **91**

BLOCKS AND HOOKS (PLATE MOUNTING)
See Plate Mounting Equipment.

BLOCK CLEANING OUTFITS

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O.** **13**

BLOCK FLOORS
See Vibration Absorbing, etc.

BLOCK LEVELERS
See Sawing, Trimming, etc., Machinery.

BLOCKERS' TYPE HIGH FINISHING PLANERS
See Sawing, and Trimming Machinery.

BLOCKING MACHINES
See Electrotypers' and Photo-engravers' Equipment.

BLOWERS (CLEANING, PORTABLE)
Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill.
Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.
Leiman Bros., Inc., 156 Christie St., Newark, N. J.

BOARD CUTTERS, ROTARY
See Carton and Paper Box Makers' Machinery.

BODKINS
See Tools.

BONE FOLDERS
See Tools.

BOOK BACK COMPRESSORS
See Bookbinding Machinery.

BOOK BACK GLUING MACHINES
See Bookbinding Machinery.

BOOK BLOCKS
See Plate Mounting Equipment.

BOOK CHASES
See Chases, etc.

BOOK COMPRESSORS
See Bookbinding Machinery.

BOOK COVERING MACHINES
See Bookbinding Machinery.

BOOK FINISHING MACHINES
See Bookbinding Machinery.

BOOK GUIDES, PAPER CUTTER
See Bookbinding Machines.

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1855 TO 1935

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80 YEARS

of Service to the Printing Industry

IN 1935 C. B. Cottrell & Sons Co. celebrates its 80th Anniversary. It is only natural for us to be proud of the accomplishments of those years. Looking backward we see our organization celebrating the manufacture of the first Magazine Web Rotary Press. Years later the same organization completed the first Bag Printing Press and then still later the first Four-color Press.

It is gratifying to see some presses that were made by us 50 years ago still in constant use and turning out first-quality work. Today these presses are being serviced as efficiently and promptly as recent models.

A record of 80 years is an achievement made possible only by a high regard for both customers and our product. The Cottrell organization leans backward in its desire to please and satisfy its customers both before and after a sale. One gains an idea of the staunchness of our organization by the fact that the average term of service of employees is 25 years per person. For this reason each man becomes an expert in his line—and experts produce the finest merchandise. Every Cottrell man is proud of Cottrell achievements and history, and the whole organization endeavors to live up to the idea of making printing presses of the highest possible production speed consistent with quality in the finished product.

C. B. COTTRELL & SONS COMPANY

25 East 26th St., New York • Westerly, R. I. • 332 S. Michigan Ave., Chicago

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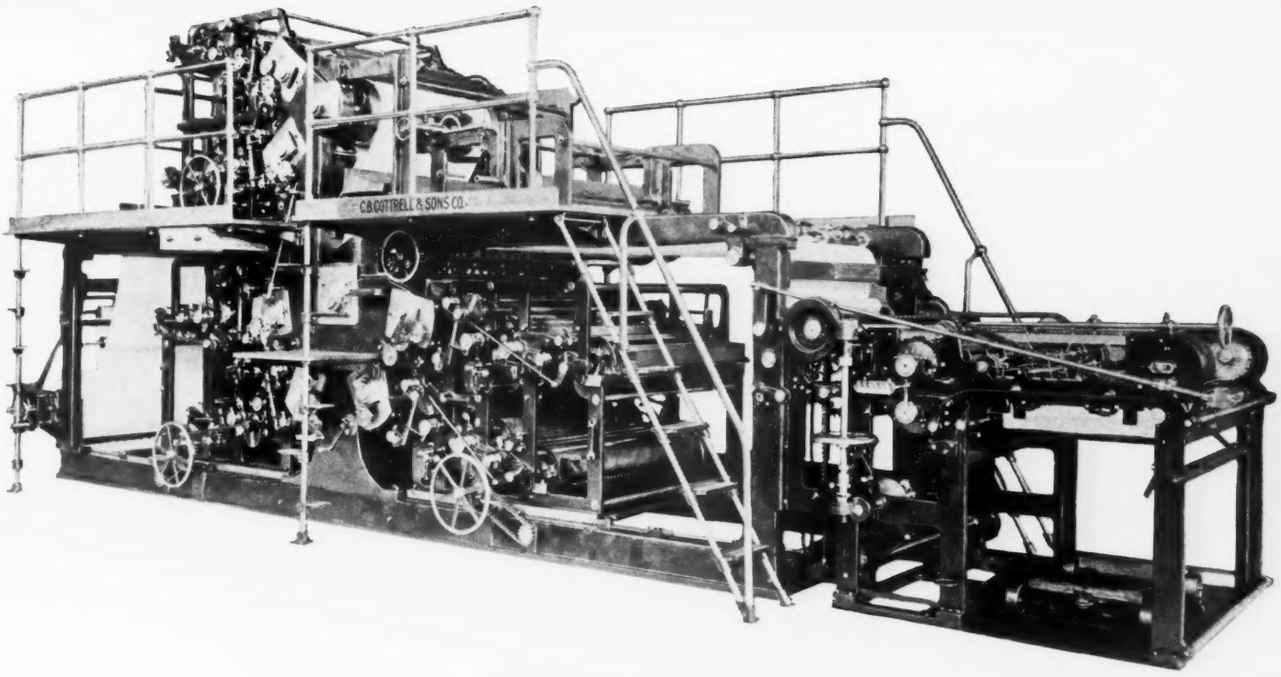

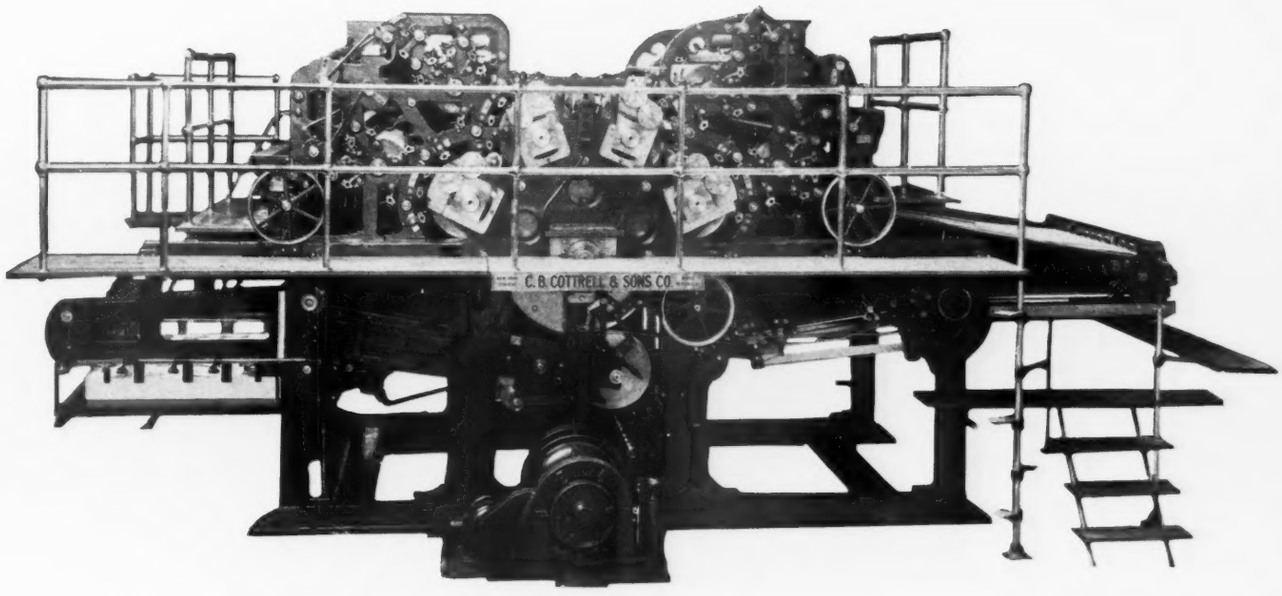

MAGAZINE ROTARY

Roll feed, one color, flat delivery.
Roll feed, one color, folded product.
Roll-feed, double two-color, flat or folded.
Roll feed, folded and pasted.
Roll feed, folded, covered and stitched.
Various sizes and designs for magazines, catalogs and booklets.

MULTI-COLOR ROTARY

Sheet feed, one to five colors.
Roll feed, four colors.
Roll feed, six colors.
Various sizes and designs for covers, inserts, labels and cartons.

BOOK LOCKS
See Loose Leaf Metal.

BOOK MATCH COVER PRINTING AND FINISHING MACHINES
See Printing Presses.

BOOK SEWING MACHINES
See Sewing Machines.

BOOK SMASHING MACHINES
See Bookbinding Machinery.

BOOK STABBING MACHINES
See Bookbinding Machinery, etc.

BOOK TRIMMERS
See Cutting and Trimming Machines.

BOOK TRIMMING GUIDES FOR CUTTING MACHINES
See Bookbinding Machinery.

BOOKBINDERS' CLOTH
See Cloth.

BOOKBINDERS' HAND SHEARS
See Shears.

BOOKBINDERS' LEATHER
See Cloth, etc.

BOOKBINDERS' MACHINERY DRIVES
See Dynamos, etc.

BOOKBINDERS' PRESSES
See Die Stamping, etc., Presses.

BOOKBINDERS' SUPPLIES
See Bookbinding Machinery, etc.

BOOKBINDING MACHINERY, TOOLS AND SUPPLIES
Bookbinders' and other machines, accessories and tools used in producing books. For Book Cloth and Book Leathers, see Cloth, etc.; see Adhesives; Assembling, etc., Machines; Bronzing Machines; Cabinets, etc.; Counters, Daters, Numbering and Paging Machines; Cutting and Trimming Machines; Feeders, Folders, etc.; Glue Heaters, etc.; Gluing, Gumming, etc.; Machines; Perforating, Punching, etc.; Machinery Round Corner Cutters, etc.; Sewing Machines; Slitting and Rewinding Machines; Standing Presses; Stitching Machines; and Tables.

Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City.
*Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.
*Challenge Machinery Co., The, Grand Haven, Mich.
*Chambers Bros. Co., 52nd St. and Media, Philadelphia, Pa.
*Crawley Bookbinding Machinery Corp., 44 Keturah St., Newport, Ky.
*Fuller, E. C., Co., 28 Reade St., New York City.

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill. 105**

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co., Div., Dayton, O. Inserts, 50-51, 110-111**

*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.
*Marresford, Wm. F., Inc., College and Highland Aves., Niagara Falls, N. Y.
*Meyers, L. W., Co., 1828 Milwaukee Ave., Chicago, Ill.
*Missouri Brass Type Foundry, 22nd and Howard Sts., St. Louis, Mo.
*Oversewing Machine Co., 770 E. Washington Ave., Los Angeles, Calif.
*Parry, S. R., 224 Mill St., Rochester, N. Y.
*Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.
*Sheridan Co., T. W. & C. B., 135 Lafayette St., New York City.
*Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.
*Smyth Co., Jos., E., 343 S. Dearborn St., Chicago, Ill.
*Standard Machinery Co., The, 12 Water St., Mystic, Conn.
*Thompson-National Press Co., Inc., Franklin, Mass.
Ucab Distributing Corp., 1895 Federal St., Camden, N. J.
Wrigley, Thos., Co., The, 609 W. Lake St., Chicago, Ill.

BORDERS (DECORATIVE MATERIAL, FANCY INITIALS, BRASS FLOURISHES, ORNAMENTS, ETC.)
See Type.

BORING MACHINES (CURVED PLATE)
See Stereotypers' Machinery.

BOX COVERING, LINING AND WRAPPING MACHINES
See Carton and Paper Box Makers' Machinery.

BOX MAKERS' MACHINERY
See Carton and Paper Box Makers' Machinery.

BOX PRINTING MACHINERY
See Printing Presses, Combined Process.

BOX STITCHING MACHINES
See Stitching Machines.

BRAKES, FOR PRESSES
*American Type Founders Sales Co., 300 Communipaw Ave., Jersey City, N. J.
*Chandler & Price Co., 6000 Carnegie Ave., Cleveland, O.
*Cline Electric Mfg. Co., 211 W. Wacker Drive, Chicago, Ill.
Cutler-Hammer, Inc., 542 N. Twelfth St., Milwaukee, Wisc.

***GENERAL ELECTRIC CO., Schenectady, N. Y. 23-60-61-97**

*Hart, R. E., Mfg. Co., 14th and Merrill Park, Battle Creek, Mich.

***MILLER PRINTING MACHINERY CO., 1101 Reedsdale St., Pittsburgh, Pa. Insert, 76-77**

*Thomson-National Press Co., Franklin, Mass.

BRASS AND STEEL CATCHES FOR PLATE MOUNTING EQUIPMENT
See Plate Mounting Equipment.

BRASS GALLEYS
See Galleys.

BRASS RULE, BRASS AND COPPER THIN SPACES FOR VERTICAL TABULAR BRASS RULE
See Broaches.

*American Steel Chase Co., 122 Centre St., New York City.
*Empire Type Foundry, Delevan, Cattaraugus Co., N. Y.
*Missouri-Central Type Foundry, Wichita, Kans.
*Judson Co., The, 240 W. 40th St., New York City.
*Stewart, Don, Co., 423 Sacramento St., San Francisco Calif.
*Taylor, W. E., Co., 209 W. 38th St., New York City.

BRASS TYPE
See Type.

BRAYERS
See Rollers.

BROACHES, FOR PREPARING LINOTYPE SLUGS FOR VERTICAL RULE—INCLUDES VERTICAL BRASS RULE

***CHICAGO LINO-TABLER CO., 53 W. Jackson Blvd., Chicago, Ill. 94**

BRONZE LEAF
See Foil.

BRONZING MACHINES, BRONZE BURNISHERS, DUSTERS AND SIEVES, BRONZER FEEDERS INCLUDED
Christensen Machine Co., 100 Fourth St., Racine, Wis.

***HENSCHEL, C. B., MFG. CO., 229 W. Mineral St., Milwaukee, Wisc. 78**

*Smith, Kilby P., 530 Atlantic Ave., Boston, Mass.

***U.P.M.-KIDDER PRESS CO., 121 Broadway Dover, N. H. 118**

BRONZE POWDERS AND METALLIC INK
Auld, Hampton, Inc., 104-106 Verona Ave., Newark, N. J.
Baer Bros., 438 W. 37th St., New York City.
*Doyle, The J. E., Co., 310 Lakeside Ave., Cleveland, O.
Meyer, The E. W., Co., 407 E. Michigan St., Milwaukee, Wisc.
Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.
Oroline Products Co., 127 W. Harrison St., Chicago, Ill.
Reynolds Metals Co., 19 Rector St., New York City.
Sinclair & Carroll Co., Inc., 591 Eleventh Ave., New York City.

BRUSH SHIFTING MOTORS
See Dynamos, etc.

BUMPING-UP PRESSES
See Stereotypers' Machinery.

BUNDLING PRESSES
See Banding and Bundling Presses.

BUNDLE TYING AND PACKAGING MACHINES
Bunn, B. H., Co., Vincennes Ave. at 76th St., Chicago, Ill.
Garrard Co., Inc., The, 2915 W. 47th St., Chicago, Ill.
*Hudson-Sharpe Machine Co., 1207 Main St., Green Bay, Wis.

BURNERS, GAS, FOR PRESSES
See Electric and Gas Heaters.

BURNISHERS, BOOKBINDERS
See Bookbinding Machinery, etc

C

CABINETS, CASES, RACKS AND STANDS
*Acme Printing Appliance Co., The, 333 S. Clinton St., Chicago, Ill.
*Angle Steel Stool Co., Inc., Plainwell, Mich.
*Auto Sheet Metal Works, Inc., 6106 S. Avalon Blvd., Los Angeles, Calif.
Berger Mfg. Co., Canton, O.
*Challenge Machinery Co., The, Grand Haven, Mich.
*Franklin Printers Supply Co., 608 Cherry St., Philadelphia, Pa.

***LUDLOW TYPOGRAPH CO., 2032 Clybourne Ave., Chicago, Ill. 9**

*Missouri-Central Type Foundry, Wichita, Kans.

***MONOMELT CO., THE, INC., 1611-15 Polk St., N. E., Minneapolis, Minn. 127**

Revolvator Co., 340 Garfield Ave., Jersey City, N. J.

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. 93**

Toledo Metal Furniture Co., The, 1100 Hastings St., Toledo, O.
*Thompson Cabinet Co., Luke St., Ludington, Mich.
*Hamilton Mfg. Co., 1315 18th St., Two Rivers, Wisc.
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.

CABINET SAW TABLES
See Sawing, Trimming Machinery.

CALENDAR PRINTING MACHINES
See Printing Presses.

CALENDER PUNCHING AND STRINGING MACHINES
*Fuller, E. C., Co., 28 Reade St., New York City.
*Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.

CAMERA AND COLOR LAMPS
See Cameras.

CAMERA MULTIPLE NEGATIVE ATTACHMENTS
See Cameras.

CAMERAS (LITHOGRAPHIC AND OFFSET AND ACCESSORIES, INCLUDING FILTERS AND SCREENS—FOR PHOTO-ENGRAVERS' EQUIPMENT AND SUPPLIES
*Eureka Photomechanical Equipment, Inc., 350 W. 31st St., New York City.
*General Printing Ink Corp., 100 Sixth Ave., New York City. Rutherford Machinery Co. Div.

***LANSTON MONOTYPE MACHINE CO., 24th and Locust Sts., Philadelphia, Pa. 52**

*Levy, Max, & Co., Wayne and Berkley Sts., Philadelphia, Pa.

***ROBERTSON, R. R., 400 W. Madison St., Chicago, Ill. 117**

*Wesel, F., Mfg. Co., Scranton, Pa.

CANS (BENZINE, OIL AND WASTE)
Angle Steel Stool Co., 820 N. Oak St., Plainwell, Mich.

***HOE, R. & CO., 138th St. and East River, New York City 56-57**

Ritchie, W. C., & Co., 831 W. Van Buren St., Chicago, Ill.
Sexton Can Co., 31 Cross St., Boston, Mass.

CARD BLANKS
See Paper and Board.

CARD COLOR PRINTING PRESSES
See Printing Presses.

CARD CUTTERS
See Cutting and Trimming Machines.

CARDBOARD GROOVING MACHINES
See Carton and Paper Box Makers' Machinery.

CARTON AND PAPER BOX MAKERS' MACHINERS ACCESSORIES AND SUPPLIES
Box Covering, Lining and Wrapping Machines; Cardboard Grooving Machines; Cork, Laminated Boards and Rubber for Steel Rule Dies; Corner Cutters and Flange Benders; Corrugated Paper Making Machines; Rotary Board Cutters; Rotary Creasing and Scoring Machines; Steel Cutting Plates, etc.
See Adhesives; Banding and Bundling Presses; Bundle Tying Machines; Cutting Machines; Cutting Rule Bending, Creasing and Cutting Machines; Cutting, Creasing and Perforating Rule; Gluing, Gumming, etc., Machinery; Ink; Printing Presses; Sawing, Trimming, etc., Machinery; Shears; Stitching Machines, etc.

*Bakke, L. A., 701 Washtenaw Ave. Chicago, Ill.
*Fuller, E. C., Co., 28 Reade St., New York City.
*Herrick & Cowell Co., The, 39 Artezan St., New Haven, Conn.
Inman Mfg. Co., Inc., 51 Guy Park Ave., Amsterdam, N. Y

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O. 13**

*Parry, S. R., 224 Mill St., Rochester, N. Y.

***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich. 129**

Robinson, John T., Co., Hyde Park, Mass.
*Southworth Machine Co., 30 Warren Ave., Portland, Me.
Stokes & Smith Co., Summerdale St., Philadelphia, Pa.
Vierangel Machine Co., Inc., The M., 360 Troutman St., Brooklyn, N. Y.
*Willsea Works, The, 1042 University Ave., Rochester N. Y.

CARTON PRINTING, CUTTING, CREASING, EMBOSSING, STRIPPING, MULTIPLE COLOR AUTOMATIC PRINTING MACHINES
See Printing Presses.

CARTON PRINTING, SCORING, CREASING AND CUTTING MACHINES
See Printing Presses.

CASE AND CASE MAKING MACHINES
See Bookbinding Machinery.

CASE BACK FORMING MACHINES
See Bookbinding Machinery.

CASE BENDING MACHINES
See Bookbinding Machinery.

CASES
See Cabinets.

CASING-IN MACHINES
See Bookbinding Machinery.

CASTERS, FOR TRUCKS
See Trucks.

CASTING BOXES
See Stereotypers' Machinery, etc.

CAST IRON CHASES
See Chases, etc.

CAST IRON NEWSPAPER BASES
See Plate Mounting Equipment.

CATALOG AND MAGAZINE WRAPPING MACHINES
See Mailers and Mailing Machines.

CATALOG PRINTING AND FINISHING MACHINES
See Printing Presses.

CATCHES, PLATE BRASS AND STEEL
See Plate Mounting Equipment.

CELLOPHANE AND CELLULOID SHEETS
Celluloid Corp., 10 E. 40th St., New York City.
DuPott Cellophane Co., Inc., Empire State Bldg., New York City.

CELLULOID TABBING MACHINES
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.

CENTRIFUGAL HUMIDIFIERS
See Air and Paper Conditioning.

CHAIRS, PRESS SEATS AND STOOLS
*Angle Steel Stool Co., Inc., Plainwell, Mich.
Globe-Wernicke Co., Inc., Carthage St., Cincinnati, O.

***MILLER PRINTING MACHINERY CO., 1117 Reedsdale Ave., Pittsburgh, Pa.** 76-77

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** .. 93

CHALK OVERLAYS
See Overlays.

CHASES, CHASE LOCKS, WRENCHES, CYLINDER PRESS BED LOCKS, JOB LOCKS, LOCK-UPS, PAGE FRAMES, QUOINS, QUOIN KEYS, REGISTER NUTS, AND QUOIN LOCKS
*American Steel Chase Co., 122 Centre St., New York City.
*Ajax Safety Quoin Mfg. Co., 874 Broadway, New York City.
American Adjustable Lockup Co., The, Torrington, Conn.
*Clark Mfg. Co., 53 Washington St., New York City.
*Challenge Machinery Co., The, Grand Haven, Mich.
*Eastern Malleable Iron Co., Wilmington, Del.
*Hempel, H. A., 55 Baynes Ave., Buffalo, N. Y.
*Missouri-Central Type Foundry, Wichita, Kans.
*Moore Maeninery Co., 109 S. Hanover St., Baltimore, Md.
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.
*Nonpareil Sub-Chase Co., 268 First St., San Francisco, Calif.

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O.** 13

*Reibe Quoin Co., 122 N. Lamon Ave., Chicago, Ill.

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** .. 93

*Sanblom Steel Chase Co., 426 S. Clinton St., Chicago, Ill.
*Smitn, F. X., Co., 953 E. 93rd St., New York City.
*Stephens & Wickersham Quoin Co., 174 High St., Boston, Mass.
*Straight, H. H., 9510 Milton Ave., Overland, Mo.
*Trapp & Kuehnle, 253 Pearl St., New York City.
*Unique Steel Block Co., Waverly, N. Y.
Vion Safety Quoin Co., 71 Summit Ave., Jersey City, N. J.
*Warnock, W. S., Co., 1524 Jonquil Terrace, Chicago, Ill.
*Wiedmann Quoin Co., The, 44 Webster St., Revere, Mass.

CHASE RACKS
See Cabinets.

CHECK IMPRINTING AND NUMBERING MACHINES
See Printing Presses.

CHECK PRINTING AND FINISHING MACHINES
See Printing Presses.

CHUCKS (NON-RETURNABLE CORES)
U. S. Mfg. Co., 129 E. Market St., Indianapolis, Ind.
Waldron, John, Corp., New Brunswick, N. J.

CIRCULAR LETTER PRINTING PRESSES
See Printing Presses.

CIRCULAR SAW FILING MACHINES

***HOE, R., & CO., 138th St. and East River, New York City** 56-57

*Rogers, Samuel C., & Co., Inc., 191 Dutton Ave., Buffalo, N. Y.
*Sharp Tool Service Co., 5613 W. Lake St., Chicago, Ill.

CIRCULAR SAWING MACHINES AND SAWS
See Sawing, Trimming, etc., Machinery.

CLEANING COMPOUNDS, PREPARATIONS AND SOLUTIONS

BLACK CROSS METAL CLEANSER CO., 128 Moss Ave., Highland Park, Mich. 129

Chalmers Chemical Co., 123 Chestnut St., Newark, N. J.

***FRANKLIN PRINTERS SUPPLY CO., 608 Cherry St., Philadelphia, Pa.** 129

Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.
Indiana Chemical & Mfg. Co., 23 E. 26th St., New York City.
Oakite Products Co., 32 Thames St., New York City.

***PERFECTION TYPE, INC., 141 E. 5th St., St. Paul, Minn.** 129

CLEANING KITS FOR PLATE MOUNTING EQUIPMENT
See Plate Mounting Equipment, etc.

CLOTH, CLOTH TAPE, LEATHER AND LEATHER SUBSTITUTES
For Bookbinding Material — Floss, Thread and Twine. For Lithographic and Offset Machine Roller Fabrics and Leather.
See Lithographic and Offset Plate Making, etc., for Ruling Machine Flannel, see Ruling Machines.
Athol Mfg. Co., Athol Mass.
DeJonge, Louis, & Co., 69 Duane St., New York City.
DuPont DeNemours, E. I., & Co., Inc., Fabrikoid Div., Newburgh, N. Y.
Holliston Mills, Inc., The, Norwood, Mass.
Keratol Co., The Inc., 394 South St., Newark, N. J.
Molloy, David J., Co., 2859 N. Western Ave., Chicago, Ill.
Zapon Co., The, Stamford Conn.

CLOTH COVERED ROLLERS
See Rollers.

CLOTH CUTTING AND GLUING MACHINES
See Bookbinding Machinery.

COATING MACHINES
For Applying Paints and Varnish to Sheets other than Paper. For Paper Coating, See Gluing, etc.
*General Printing Ink Co., Rutherford Machinery Div., 100 Varick St., New York City.
*Wagner, Chas., Litho Machine Co. Inc., 51-55 Park Ave., Hoboken, N. J.

COFFEE AND TEA BAG MAKING AND PRINTING MACHINES
See Printing Presses.

COLLAPSIBLE TUBE PRINTING MACHINES
See Lithographic and Offset Plate Making and Printing Equipment and Supplies.

COLLATING MACHINES
See Assembling, etc., Machines.

COLOR FOIL OR LEAF
See Foil.

COLOR OR DAYLIGHT LAMPS
See Cameras.

COLOR FLASH UNITS FOR NEWSPAPER MARGINAL PRINTING

SLATER, H. ROBERT, CO., 1443 Carroll Ave., Chicago, Ill. 123

COLOR PRECISION CAMERAS
See Cameras.

COLOR PRESS CONTROLS
See Dynamos, etc.

COLOR PRINTING, PUNCHING, DIE-CUTTING, DIE-PUNCHING AND CUTTING MACHINES
See Printing Presses.

COLOR REDUCING FILM

BOURGES SERVICE, INC., 175 Fifth Ave., New York City 114

Ben Day, Inc., 118 E. 28th St., New York City.

COLOR ROTARY PRESSES
See Printing Presses.

COMBINATION CUTTER AND MITERER
See Lead, etc., Cutting Machines.

COMBINATION REGISTER HOOK KEYS
See Plate Mounting Equipment.

COMBINED JIG SAW AND DRILLING MACHINES
See Sawing, Trimming, etc., Machinery.

COMBINED SAW TABLE AND MONORAIL TRIMMER
See Sawing, Trimming, etc., Machinery.

COMBINING MACHINES
See Gluing, Gumming, etc., Machines.

COMMISSARY BOOK PRINTING AND MAKING MACHINES
See Printing Presses.

COMPLETE BINDERS
See Bookbinding Machinery.

COMPOSING CAMERAS OR MACHINES
See Lithographic and Offset Plate Making, etc., Equipment.

COMPOSING AND MAKE-UP RULES AND STICKS

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** .. 93

***STAR TOOL WORKS, INC., Shuey Factories Bldg., Springfield, O.** 121

*American Steel Chase Co., 122 Centre St., New York City.
*American Type Founders Sales Co rp., 300 Communipaw Ave., Jersey City, N. J.
*Hamilton Mfg. Co., 1315 18th St., Two Rivers, Wisc.
*Stephens & Wickersham Quoin Co., 174 High St., Boston, Mass.

COMPOSING ROOM CABINETS
See Cabinets, etc.

COMPOSING ROOM CYLINDER PRESSES
See Proof and Test Presses.

COMPOSING ROOM SAWS
See Sawing, Trimming, etc., Machinery.

COMPOSING AND SLUG AND TYPE CASTING MACHINE DRIVES
See Dynamos, etc.

COMPOSING MACHINES AND SUPPLIES
Machines, Assemblers, Parts, Supplies, etc.; See Chairs and Stools, Metals; Metal Feeders; Sawing, Trimming, etc., Machinery.
a. Machines
b. Parts
c. Keyboards, Keyboard Operating Units and Tape Perforators
d. Supplies

AMERICAN PUBLISHERS SUPPLY, P. O. Box 131, West Lynn, Mass.— *d* 14-15

American Type-O-Writer Co., Ltd., 212 N. Chevy Chase Dr., Glendale, Calif.— *c.*
*Alexander & Cox, 2358 Ogden Ave., Chicago, Ill.— *b.*
*American Steel Chase Co., 122 Centre St., New York City — *b.*
*Automatic Saw Sharpening Co., 735 E. Ohio St., Indianapolis, Ind. Mold cooler and mold polish.— *d.*
Booth, E. A., Rubber Co., 364 Rockefeller Bldg., Cleveland, O.— *d.*

***CHICAGO LINO-TABLER CO., 53 W. Jackson Blvd., Chicago, Ill.**— *b* 94

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill.**— *a-b* 99

*Curle Mfg. Co., 500 Sansome St., San Francisco, Calif.— *b.*
Dixon Crucible Co., Jos., Jersey City, N. J.
*Ewald Co., 1726 Second Ave., Minneapolis, Minn.— *b.*
Fort Dearborn Mfg. Co., 1st St. and 1st Ave., Sterling, Ill.— *b.*
*Globe Unitype Foundry, 154 Grand St., New York City — *a.*

***INTERTYPE CORP., 360 Furman St., Brooklyn, N. Y.** — *a-b-c-d* ..... outside back cover

KLEAN-O-MAT DIV., THE FRED GOAT CO., INC., 314 Dean St., Brooklyn, N. Y.— *d* 81

***LANSTON MONOTYPE MACHINE CO., 24th and Locust Sts., Philadelphia, Pa.**— *a-b-c-d* 51

*Linograph Corp., Davenport, Iowa — *a-b-d.*

***LINOTYPE PARTS CORP., 203 Lafayette St., New York City** — *b-d* 27

*Linotype Supply Co., 321 Broadway, New York City — *b-d.*

***LUDLOW TYPOGRAPH CO., 2032 Claybourn Ave., Chicago, Ill.**— *a-b-d* 9

*Majestic Intertype & Linotype Accessories Corp., 31 Railroad Ave., Freeport, L. I., N. Y.— *b-d.*

***MERGENTHALER LINOTYPE CO., 29 Ryerson St., Brooklyn, N. Y.**— *a-b-c-d* 43

*Montgomery & Bacon, Elizabeth and Railroad Aves., Towanda, Pa.— *b-d.*
Norval H. Dixon & Co., 345 Poplar Rd., Indianapolis, Ind.— *b.*
*Perfection Chute Spring Co., 2035 Parkdale Ave., Toledo, Ohio — *d.*

***PERFECTION TYPE, INC., 141 East 5th St., St. Paul, Minn.**— *b* 129

*Reid Brothers, Inc., 140 Elliott St., Beverly, Mass.— *b.*

***REID, WILLIAM & CO., 537 S. LaSalle St., Chicago, Ill.**— *b-d* 129

*Rich & McLean, 60 Cliff St., New York City — *b.*

ROCKAWAY CO., THE, 5409 W. Vliet St., Milwaukee, Wis.— *d* 17

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.**— *d* 93

*Smith, F. X., Co., 953 E. 93rd St., New York City — *b.*

***STAHI NEWSPAPER SUPPLY CO., INC., Oregonian Bldg., Portland, Ore** — *d* 6-7

Superior Mfg. Co., P. O. Box 2491, Kansas City, Mo.— *b-d.*
*Teletypesetter Corp., 1400 Wrightwood Ave., Chicago, Ill.— *c.*
*Time Saving Device Co., Inc., The, 599 Kenmore Ave., S. E., Warren, O.— *b.*
*Wiebking Engraving Co., 1133 Newport Ave., Chicago, Ill.— *b.*

COMPOSING MACHINE OPERATORS' CHAIRS AND STANDS
See Chairs.

COMPOSITION BLOCKS
See For Cutting Color and Tint Plates.

COMPOSITION ROLLERS
See Rollers.

COMPRESSORS
See Booking Machine.

CONFETTI MAKING MACHINES
See Perforating, Punching and Confetti Making Machines, etc.

CONSTANT SPEED MOTORS
See Dynamos, etc.

CONTACT NEGATIVE MACHINES
See Lithographic and Offset Plate Making, etc.

CONTINUOUS FORM PRINTING AND FOLDING MACHINES
See Printing Presses.

CONTROLLERS
See Electrical, Press, etc., Also Dynamos, etc.

CONVEYORS, MAGAZINE AND NEWSPAPER
Cutler-Hammer, Inc., 542 N. Twelfth St., Milwaukee, Wis.
Jampol Co., The, 11 Park Pl., New York City.

CONVEYORS, SHEET TO BRONZER
See Bronzing Machines and Feeders, Folders, etc.

COOLING SYSTEMS
See Air and Paper Conditional Equipment.

COPPER CYLINDER GRINDING MACHINES
See Rotogravure Printing Machinery.

COPPER PLATE PRESSES
See Die Stamping, etc., Presses.

COPPER PLATES
See Aluminum, Copper and Zinc Plates.

COPPER THIN SPACES
See Brass Rule, etc.

COPYING INKS
See Ink.

CORK, FOR STEEL RULE DIES
See Carton and Paper Box Makers' Machinery.

CORK FOUNDATION
See Vibration Absorbing and Wear Resisting Floors.

CORK MOULDING BLANKETS
See Blankets.

CORNER CUTTERS AND KNIVES
See Carton and Paper Box Makers' Machinery. Also Round Corner Cutters.

CORNER STAGING MACHINES
See Bookbinding Machinery.

CORNER TURN-IN MACHINES
See Bookbinding Machinery.

CORRUGATED PAPER MAKING MACHINES
See Carton and Paper Box Makers' Machinery, etc.

COUNTER SALES BOOK PRINTING AND MAKING MACHINES
See PrintingPresses.

COUNTERS, DATERS, NUMBERING AND PAGING MACHINES
*American Numbering Machine Co., 224 Shepherd Ave., Brooklyn, N. Y.

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill.** **99**

*Detroit Numbering Machine Co., 535 Bates St., Detroit, Mich.
*Force, Wm. A., & Co., 105 Worth St., New York City.
Hart, R. E., Mfg. Co., 14th St., Merrill Park, Battle Creek, Mich.
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.
*Hoole Machine & Engraving Works, Inc., 30 Main St., Brooklyn, N. Y.
*Numbering Machine Hospital, 681 Market St., San Francisco, Calif.
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
Production Instrument Co., 1315 S. Wabash Ave., Chicago, Ill.
Precision Machine Co., 4601 W. State St., Milwaukee, Wis.
*Reddington, F. B., Co., 112 S. Sangamon St., Chicago, Ill.
*Reliance Machine Works, 1913 N. 83rd St., Wauwatosa, Wisc.
*Roberts Numbering Machine Co., The, 694-710 Jamaica Ave., Brooklyn, N. Y.
*Standard Numbering Machine Co., 563 Fairview Ave., Brooklyn, N. Y.

***STAR TOOL WORKS, Shuey Factories Bldg., Springfield, O.** **121**

Ucab Distributing Corp., 1895 Federal St., Camden, N. J.
Veeder-Root, Inc., Hartford, Conn.

***WETTER NUMBERING MACHINE CO., Atlantic and Logan Sts., Brooklyn, N. Y.** **29**

COUPON PRINTING AND FINISHING MACHINES
See Printing Presses.

COVER DEWARPING MACHINES
See Bookbinding Machinery.

COVER FOLDING AND CUTTING MACHINES
See Bookbinding Machinery.

COVER SCORERS AND GLUERS
See Bookbinding Machinery.

COVERERS (INTERMITTENT)
See Bookbinding Machinery.

COVERING MACHINES(CLOTH, PAPER)
See Bookbinding Machinery.

CREASING AND SCORING MACHINES
See Carton and Paper Box Makers' Machinery.

CURVED PLATE BORING MACHINES
See Stereotypers' Machinery, etc.

CURVED PLATE FINISHING COOLING, DRYING MACHINES
See Stereotypers' Machinery.

CURVED PLATE FINISHING TOOLS, SADDLES AND SLABS
See Stereotypers' Machinery.

CURVED PLATE POWER PROOF PRESSES
See Proof and Test Presses.

CURVED PLATE ROUTING MACHINES
See Sawing, Trimming, etc.

CURVED PLATE SHAVING MACHINES
See Stereotypers' Machinery.

CUT FILING SYSTEMS
See Cabinets, etc.

CUT SIZING MACHINES
See Sawing, Trimming, etc., Machinery.

CUT STORAGE CABINETS
See Cabinets.

CUT AND TYPE CLEANING COMPOUNDS
See Cleaning Compounds, etc.

CUTTER AND CREASER CHASES
See Chases, etc.

CRIMPING MACHINES
*American Type Foundry Sales Corp., 300 Communipaw Ave., Jersey City, N. J.
*Latham Automatic Register Co., Inc., 608 S. Dearborn St., Chicago, Ill.
*Rosback, F. P., Co., Benton Harbor, Mich.

CUTTING AND CREASING PRESSES
*Babcock Printing Press Mfg. Co., 38 Pequot Ave., New London, Conn.

***COTTRELL, C. B., & SONS CO., Westerly, R. I.** **64-65**

*Miehle Printing Press & Mfg. Co., 14th St. and S. Damen Ave., Chicago, Ill.

***SCOTT, WALTER, & CO., Plainfield, N. J.** **62**

*Thompson-National Press Co., Inc., Franklin, Mass.

CUTTING, CREASING, AND PRINTING PRESSES
See Printing Presses.

CUTTING, CREASING AND PERFORATING RULE
*American Steel Chase Co., 122 Centre St., New York City.
Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind.
*Jacques, John & Son, 93 Webster St., Worcester, Mass.

***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich.** **129**

Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass.

CUTTING MACHINE BLADES OR KNIVES
See Shears, or Cutting and Trimming Machines.

CUTTER KNIFE GUARDS
*Challenge Machinery Co., Fulton Ave. and Beech Tree St., Grand Haven, Mich.

CUTTING MACHINE DRIVERS
See Dynamos, etc.

CUTTING PLATES (STEEL)
See Carton and Paper Box Makers' Machinery.

CUTTING RULE BENDERS, CREASERS AND CUTTERS
Helmold, J. E., and Bro., Inc., 1462 Custer St., Chicago, Ill.

CUTTING STICKS
See Cutting Machines.

CUTTING AND TRIMMING MACHINES, KNIVES, CUTTING STICKS, KNIFE GRINDING MACHINES, AUTOMATIC PAPER CUTTERS, CONTINUOUS TRIMMERS, INTERMITTENT FEED SHEET CUTTERS
a. Cutting Machines *c.* Cutting Sticks
b. Cutting Knives *d.* Knife Grinding Machines
Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind.— *b.*
*Babcock Printing Press Co., 38 Pequot Ave., New London, Conn. *a.*
*Challenge Machinery Co., The, Grand Haven, Mich.— *a.*

***CHANDLER & PRICE CO., 6000 Carnegie Ave., Cleveland, O.**— *a* **24**

*Chicago Grinding & Machine Co., 2117 Tilden St., Chicago, Ill.— *b-d.*
*Clark Mfg. Co., 53 Washington St., New York City — *a-b.*
Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich. — *b.*
*Dexter Folder Co., 28 W. 23rd St., New York City — *a.*

***FATE-ROOT-HEATH CO., THE, 234 High St., Plymouth, Mass.**— *d* **29**

Doepel, J. E., Co., 621-623 Cherry St., Philadelphia, Pa. — *a.*

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co., Div., Dayton, O.** — *a-b-d* **Insert, 50-51, 110-111**

*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.— *d.*
*Hofbaver, Geo. & Co., 501 S. Dearborn St., Chicago, Ill. — *d.*
*Hopmans & Connelly, 45 N. Division St., Buffalo, N. Y. — *d.*
*Jacques, John, & Son, 93 Webster St., Worcester, Mass. — *a.*
*Jorson & Carlson Co., Inc., 707 S. Dearborn St., Chicago, Ill.— *d.*
*Kellet Co., 501 S. Dearborn St., Chicago, Ill.— *d.*
*Knives & Saws, Inc., 539 N. Cicero Ave., Chicago, Ill.— *b.*
Loyd, John Co., 87 Walker St., New York City — *b.*
McLauthlin, Geo. T., Co., Inc., 120 Fulton St., Boston, Mass.— *a.*
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.— *a.*
*Nelson & Son, Gust O., 626 S. Dearborn St., Chicago, Ill.— *d.*
*Nyberg, Carl M. & Co., 302 W. Van Buren St., Chicago, Ill.— *d.*
*Pavyer Printing Machine Works, 600 S. Broadway, St. Louis, Mo.— *a.*
*Printers' Equipment Mfg. Co., 1408 Adams St., Toledo, Ohio — *a.*
Robinson, John T., Co., Hyde Park, Mass.— *a-b.*
*Rogers, Samuel C., & Co., 191 Dutton Ave., Buffalo, N. Y.— *d.*
*Sharp Tool Service Co., 5613 Lake St., Chicago, Ill.— *d.*
*Sheridan Co., T. W. & C. B., 135 Lafayette St., New York City — *a.*
Shawver Co., The, 21 W. Pleasant St., Springfield, O.— *a.*
Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass. — *b.*

***SIMONDS-WORDEN-WHITE CO., Dayton, Ohio** — *b* **116**

*Southworth Machine Co., 30 Warren Ave., Portland, Me.— *a.*
*Swanson, John Co., 709 S. Dearborn St., Chicago, Ill.— *d.*
Wapakoneta Machine Co., The, Wapakoneta, O.— *b.*
*Wundes, A., Son, 141 Front St., Rochester, N. Y.—*d.*

***TESCH MFG. CO., 2700 S. 20th St., Milwaukee, Wis.**— *d* **27**

CYLINDER BRAKES (ELECTRICAL)
See Dynamos, etc.

CYLINDER PRESS BED LOCKS
See Chases, etc.

CYLINDER PRESS FEEDERS
See Feeders, Folders, etc.

CYLINDER PRESS SEATS
See Chairs, Press Seats and Stools

CYLINDER PRESSES
See Printing Presses

CYLINDERS (COMPOSING ROOM)
See Proof and Test Presses.

D

DAMPENING DEVICES (LITHO)
See Lithographic and Offset Plate Making, etc., Supplies.

DARKROOM EQUIPMENT AND ACCESSORIES
See Lithographic and Offset and Plate Making, etc., Supplies.

DATING MACHINES
See Counters.

DAYLIGHT LAMPS
See Cameras.

DECKLING MACHINES

***KRAUSE, KARL, U. S. CORP., 55-57 Van Dam St., New York City** **101**

DEHYDRATING SYSTEMS
See Air and Paper Conditioning Equipment.

DELIVERIES (PRESS, FOLDER, BRONZER, ETC.)
See Feeders, Folders, etc.

DESKS
See Tables, etc.

DEVELOPING INK
See Lithographic and Offset Plate Making, Equipment, Supplies, etc.

DIAGONAL BASE
See Plate Mounting Equipment.

DIAGONAL BLOCK FILLERS
See Plate Mounting Equipment.

DIAGONAL CHASES
See Chases.

DIE OR BINDERS BOARD
See Paper and Board.

DIE BOARDS, LAMINATED
See Carton and Paper Box Makers' Machinery.

DIE CUTTING PRESSES

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co. Div., Dayton, O.** ... **Insert, 50-51, 110-111**

*Logemann Bros. Co., Inc., 3150 W. Burleigh St., Milwaukee, Wisc.
*Thomson National Press Co., Dean Ave., Franklin, Mass.

DIE CUTTING, PUNCHING, PERFORATING, CUTTING AND SLITTING MACHINES
See Machines for Separate Operations.

DIE HEATERS AND HEAT CONTROLLERS
*Thomson-National Press Co., Dean Ave., Franklin, Mass.

DIE PRESSES
See Die Stamping, etc., Presses.

DIE RUBBER
See Carton and Paper Box Makers' Machinery.

DIE STAMPING, EMBOSSING, PALLET AND PLATE PRESSES
*Barnard, Paul J., 1600 Junction Ave., Racine, Wisc.

***BRANTJEN & KLUGE, 653 Gaultier St., St. Paul, Minn.** **46**

*Gardner, P. A., Inc., 709 Pine St., St. Louis, Mo.

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co. Div., Dayton, O** ... **Insert, 50-51, 110-111**

Improved Boehner Binder Co., 111 Fox St., Aurora, Ill.
Swift, M., & Sons, Inc., 10 Love Lane, Hartford, Conn.

DIRECT ROTARY LITHOGRAPHIC PRESSES
See Printing Presses.

DIRECT PRESSURE MACHINES
See Stereotypers' Machinery.

DISC RULING MACHINES
See Ruling Machines.

DISTRIBUTORS, INK
See Ink Agitators, etc.

DIVIDED GALLEYS
See Galleys.

DOUBLE DECK TRUCKS
See Trucks.

DOUBLE HEAD CURVED PLATE SHAVING MACHINES
See Stereotypers' Machinery.

DOUBLE HEAD FLAT PLATE FINISHING SHAVING MACHINES
See Stereotypers' Machinery.

DOUBLE MOTOR PRESS DRIVES
See Dynamos, etc.

DOUBLE SCREW SHAVING MACHINES
See Stereotypers' Machinery.

DRIERS, INK
SEE Ink.

DRILL SLOTTING MACHINES
See Paper Drilling Machines

DRILLS, PAPER
See Paper Drilling, etc.

DRIVES
See Motors.

DROSS RENOVATORS
See Metal Feeders, etc.

DROSS REPLACEMENT METALS
See Metals

DRUM CYLINDER PRESSES
See Printing Presses.

DRY COLORS
See Ink.

DRY MAT FORMERS (ELECTRIC)
See Stereotypers' Machinery.

DRY MATS AND DRY MAT HUMIDORS
See Stereotypers' Machinery.

DRYING BOXES OR OVENS (FOR GUMMED OR VARNISHED SHEETS)
See Gluing, Gumming, etc., Machinery.

DRYING CABINETS, RACKS AND TRAYS
See Cabinets.

DRYING RACKS
See Cabinets, etc.

DRYING TABLES, STEAM
See Stereotypers' Machinery.

DUCTOR KNIFE STEEL
See Rotogravure Printing Equipment.

DUCTOR ROLLER CONTROLS
*Craftsman Line-Up Table Corp., 49 River St., Waltham, Mass.

DUMP TRUCKS
See Trucks.

DUMPING TABLES
See Tables.

DUPLEX CHASES
See Chases, etc.

DUPLEX TICKET PRINTING AND FINISHING MACHINES
See Printing Presses.

DUPLICATING MACHINES
See Lithographic and Offset Plate Making, Equipment, Supplies, etc.

DUSTING MACHINES
See Bronzing Machines.

DYNAMOS, MOTORS, PRESS DRIVEJ AND ELECTRICAL CONTROL EQUIPMENT
Including Paper Break Detectors and Web Breakers. For Embossing Heat Controllers see Die Heaters, etc.
Century Electric Co., 1806 Pine St., St. Louis, Mo.

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill.—99**

*Cushman Electric Co., 69 S. Main St., Concord, N. H.
Cutler-Hammer, Inc., 542 N. Twelfth St., Milwaukee, Wisc.
*Kimble Electric Co., 2011 Hastings St., Chicago, Ill.
*Linotype Supply Co., 321 Broadway, New York City.
Marathon Electric Mfg. Corp., P. O. Box 400, Wausau, Wisc.
Northwestern Electric Co., 408 S. Hoyne Ave., Chicago, Ill.

***REID WILLIAM & CO., 537 S. LaSalle St., Chicago, Ill.—129**

*Simcoe Mfg. Co., Inc., 430 Race St., Philadelphia, Pa.
*Webendorfer-Wills Co., Inc., 2 South St., Mt. Vernon, N. Y.

E

ECCENTRIC ACTION CUTTERS AND CREASES
See Cutting and Creasing Presses.

EGG SHELLING MACHINES
See Pebbling, etc., Machines.

ELECTRIC DIE HEATERS
See Die Heaters.

ELECTRIC AND GAS HEATERS AND NEUTRALIZERS FOR PRINTING PRESSES
*Acme Printing Appliance Co., The, 333 S. Clinton St., Chicago, Ill.

***BRANTJEN & KLUGE, 653 Gaultier St., St. Paul, Minn.—46**

*Doyle, The J. E., Co., 310 Lakeside Ave., Cleveland, O.
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.
*Hoy, Frank C., 519 Main St., Cincinnati, O.

KEMP, C. M., MFG. CO., THE, 405 E. Oliver St., Baltimore, Md.—31

* Morida Mfg. Co., 32 Oliver St., Boston, Mass.
*Simcoe Mfg. Co., The, 430 Race St., Philadelphia, Pa.
*Smith, George R., Co., 431 S. Dearborn St., Chicago, Ill.
*Steel, B. W., 1133 Maple Ave., Los Angeles, Calif.

***U.P.M.-KIDDER PRESS CO., 121 Broadway, Dover, N. H.—118**

*Utility Heater Co., 239 Center St., New York City.

ELECTRIC HEATING EQUIPMENT STEREOTYPE FURNACE
See Metal Feeders, etc.

ELECTRIC INK DRYERS, OXIDIZERS, AND STATIC ELIMINATORS
See Electric and Gas Heaters.

ELECTRICAL INDICATING AND RECORDING INSTRUMENTS

***GENERAL ELECTRIC CO., THE, Schenectady, N. Y.—23-60-61-97**

ELECTRIC STEREOTYPE POT HEATERS
See Metal Feeders, etc.

ELECTRIC WELDED STEEL CHASES
See Chases, etc.

ELECTRICAL COUNTERS
See Counters, etc.

ELECTRICAL DRIVE AND CONTROL DEVICES
See Dynamos, etc.

ELECTROTYPE BEARERS
See Roller Bearers, etc.

ELECTROTYPE BLOCKS
See Plate Mounting Equipment.

ELECTROTYPE CABINETS
See Cabinets.

ELECTROTYPE CHASES
See Chases, etc.

ELECTROTYPE SAWS
See Sawing, Trimming, etc., Machinery.

ELECTROTYPERS' EQUIPMENT AND SUPPLIES

***COTTRELL, C. B., & SONS CO., Westerly, R. I.—64-65**

***HOE, R., & CO., 138th St. and E. River, New York City—56-57**

*Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero, Chicago, Ill.

ELECTROTYPERS' MACHINERY DRIVES
See Dynamos, etc.

ELECTROTYPERS' PROOF PRESSES
See Proof and Test Presses.

ELEVATING TRUCKS
See Trucks.

ELROD METAL
See Metals.

EMBOSSING BLOCKS (OR ATTACHMENTS FOR PLATEN PRESSES, ELECTRICAL)
See Die Heaters.

EMBOSSING COMPOUND OR POWDER
See Raised Letter Printing Machines and Powder.

EMBOSSING DIE HEATERS AND HEAT CONTROLLERS
See Die Heaters.

EMBOSSING EQUIPMENT, MACHINES OR PRESSES
Die Stamping, etc., or Raised Printing Machines and Powder.
*Dickinson, C. W., Jr., 321 Cortland St., Belleville, N. J.

***EMBOSSOGRAPH PROCESS CO., 251 William St., New York City—109**

*Fuller, E. C., Co., 28 Reade St., New York City.

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co. Div., Dayton, O.—Insert, 50-51, 110-111**

*Hawkins-Wilson Co., Inc., 716 Sansom St., Philadelphia, Pa.
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
*Sheridan Co., T. W. & C. B., 135 Lafayette St., New York City.
*Thomson National Press Co., Dean Ave., Franklin, Mass.

EMBOSSING AND PRINTING PRESSES (LABEL)
See Printing Presses.

EMBOSSING SIZE
See Ink.

END GUMMING DEVICES
See Gluing, Gumming, etc., Machinery.

END SHEET PASTING MACHINES
See Gluing, Gumming, etc., Machinery.

END SHEET AND STRIPPING MACHINES
See Bookbinding Machines, etc.

ENGRAVERS' INKS
See Inks.

ENGRAVERS' PRECISION PRISM TYPE CAMERAS WITH TURN-TABLE
See Cameras.

ENGRAVERS' PROOF PRESSES
See Proof and Test Presses.

ENGRAVERS' TOOLS
See Photoengravers' Equipment.

ENVELOPE CUTTERS
See Envelope Making Machinery.

ENVELOPE MAKING MACHINERY
See Printing Presses.

ENVELOPE PRINTING PRESSES
See Printing Presses.

EXPANSION HOOK BLOCKS
See Plate Mounting Systems.

EXPANSION LOCKS
See Chases.

EXTENSION DELIVERIES
See Feeders, etc.

EXTENSION ROLLER TRUCKS
See Roller Bearers etc.

EYELETTING MACHINES (ATTACHMENTS AND EYELETS)
*Brackett Stripping Machine Co., 505 Jackson St., Topeka, Kans.
*Makatag Mfg. Corp., Reading, Mass.

F

FANFOLDING MACHINES AND PRINTING PRESSES
See Printing Presses.

FEED GAUGES (FOR JOB PRESSES)
See Gauge Pins.

FEEDERS, FOLDERS AND DELIVERIES (NEWSPAPER AND WEB PRESS FOLDERS FOR ROTARY BOARD FEEDERS)
See Carton and Paper Box Makers' Machinery.
See Roll Leaf Feeders for Platen Presses.
a. Bronzer Feeders and Deliveries
b. Circular Letter Folders
c. Cylinder Press Feeders
d. Fanfolding Machines
e. Folding Machine Feeders.
f. Folding Machines
g. Job Press Feeders
h. Newspaper and Magazine Folders
i. Roll Paper Feeders
j. Ruling Machine Feeders.
k. Stitching Machine Feeders
l. Time Table Refolding Machines
m. Specialty Folders
Addressograph-Multigraph Co., Euclid, Cleveland, O. — *b-m.*
*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J.— *c-g.*
*Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill. — *f.*
*Baum, Russell Ernest, 615 Chestnut St., Philadelphia, Pa.— *f.*
*Boston Wire Stitcher Co., Division St. E., Greenwich, Conn.— *k.*

***BRANDTJEN & KLUGE, INC., Gaultier at Como Ave., St. Paul, Minn.— *g*—46**

*Brown Folding Machine Co., 18th and German Sts., Erie, Pa.— *d-e-f-h.*
*Chambers Bros Co., 52nd St. and Media, Philadelphia, Pa.— *e-f.*

***CHANDLER & PRICE CO., THE, 6000 Carnegie Ave., Cleveland, O.— *g*—24**

*Christensen Machine Co., The, 100 Fourth Ave., Racine, Wis. *For all types of sheet-fed machines.*
*Cross Paper Feeder Co., 185 Summer St., Boston, Mass. — *c-d.*
*Dexter Folder Co., 28 W. 23rd St., New York City — *b-c-d-e-h-k.*
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.— *j.*
Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.— *a.*
*Hudson-Sharpe Machine Co., 1207 Main St., Green Bay, Wisc.— *m.*
*Liberty Folder Co., The, East Court and Brooklyn Ave., Sidney, O.— *b-d-f-g.*

***LINDBLADH CORP., THE, 40 Court St., Boston, Mass.— *j*—82**

*Mentges Folder Co., The, Sidney, O. — *f.*
*Miehle Printing Press & Mfg. Co., 14th and S. Damen Ave., Chicago, Ill.— *c.*
*Nelson, C. B., & Co., 727 S. Dearborn St., Chicago, Ill.— *m.*
*Omaha Folding Machine Co., 2009-11 Cuming St., Omaha, Nebr.— *h-m.*
*Printers Machine Corp., 70 W. 40th St., New York City — *m.*
*Printing Press Extension Delivery Co., 447 W. 38th St., New York City — *a; Extension deliveries.*
Vierangel Machine Co., The M., 360 Troutman St., Brooklyn, N. Y.— *m.*
*Zanetti, J., Machine Works, 1701 Kirkwood Ave., San Francisco, Calif.— *j.*

FEEDERS, METAL
See Metal Feeders.

FELT BLANKETS
See Blankets.

FELT, STERO BACKING
See Blankets.

FILE FOLDER PRINTING AND MAKING MACHINES
See Printing Presses.

FILES, NEWSPAPER
See Newspaper Binders.

FINISHING MACHINES FOR LIBRARY BINDERS
See Bookbinding Machinery.

FINISHING PRESSES
See Bookbinding Machinery.

FINISHING SADDLES, SLABS OR TURTLES AND TOOLS
See Stereotypers' Machinery.

FISH GLUE
See Adhesives.

FLANGE BENDERS
See Carton and Paper Box Makers' Machinery.

FLAT BED METAL DECORATING PRESSES
See Printing Presses.

FLAT BED PRINTING PRESSES
See Printing Presses.

FLAT BED WEB PRESSES
See Printing Presses.

FLAT MOULDS, STEREO
See Stereotypers' Machinery.

FLAT SHAVING MACHINES WITH INCLINED BED
See Stereotypers' Machinery.

FLAT TIN BRONZING MACHINES
See Bronzing Machines.

FLEXIBLE GLUE
See Adhesives.

FLOORS (WEAR RESISTING AND VIBRATION ABSORBING)
See Vibration Absorbing and Wear Resisting Floors.

FLY STICKS, FOOT STICKS, SHOOTING STICKS, SIDE STICKS, STAR WHEELS, ETC.

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. 93**

FLYING PASTERS (FOR HIGH SPEED PASTERS)

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill. 99**

***KOHLER BROS., 410 N. Michigan Ave., Chicago, Ill. 18**

***HOE, R., & CO., 138th St. and East River, New York City 56-57**

***MONOMELT CO., THE, INC., 1611 Polk St., Minneapolis, Minn. 127**

***WOOD NEWSPAPER MACHINERY CORP., 501 Fifth Ave., New York City 12**

FOIL (INCLUDING PURE GOLD LEAF IN SHEETS AND ROLLS)
Swift, M., & Sons, Inc., 10 Love Lane, Hartford, Conn.
Wehrung & Billmeier Co., 3624-30 Lincoln Ave., Chicago, Ill.

FOLDERS (BONE)
See Tools.

FOLDER, TAPE
See Feeders, Folders, etc.

FOLDING MACHINE COUNTERS
See Counters.

FOLDING MACHINE DRIVES
See Dynamos.

FOLDING MACHINES
See Feeders, Folders, etc.

FOLIO CHASES
See Chases, etc.

FOREMAN'S DESKS
See Tables.

FORM CLAMPS
See Chases, etc.

FORM LIFTS, TABLES AND TRUCKS, MAKE-UP TRUCKS
*American Steel Chase Co., 122 Centre St., New York City.
*Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.
Easton Car & Construction Co., 10 E. 40th St., New York City.
Lewis-Shepard Co., 227 Walnut St., Watertown, Mass.

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. 93**

FORM LOCKING SYSTEMS
See Chases, etc.

FORM RACKS
See Cabinets, etc.

FORWARDING AND CASING-IN MACHINES
See Bookbinding Machinery.

FOUNDATIONS
See Vibration Absorbing Floors, etc.

FOUNDRY CHASES
See Chases, etc.

FOUNDRY TYPE
See Type.

FOUNTAINS AND FOUNTAIN DIVIDERS AND RECTIFIERS
See Ink Fountains, etc.

FOUR COLOR PROCESS PRINTING PRESSES
See Printing Presses.

FOUR COLOR SYSTEMS FOR PROOF PRESSES

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wis. 22**

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill. 105**

***VANDERCOOK & SONS, INC., 900 N. Kilpatrick Ave., Chicago, Ill. 79**

FOUR PLATEN STEEL PLATE PRINTING PRESSES
See Die Stamping, etc., Presses.

FOUR CORNER CUTTERS
See Cutting and Trimming Machines.

FRISKET FRAMES AND AUTOFRISKETS

***VANDERCOOK & SONS, INC., 900 N. Kilpatrick Ave., Chicago, Ill. 79**

FURNACES
See Metal Feeders.

FURNITURE CABINETS
See Cabinets.

FURNITURE MOLDS (FOR LINE CASTING MACHINES)
See Composing and Slug and Type Casting Machines

FURNITURE AND REGLET (ALUMINUM, IRON, STEEL, WOOD AND ZINC)
*Challenge Machinery Co., The, Grand Haven, Mich.
Empire Wood Type Mfg. Co., 252 Water St., New York City.
Globe-Wernicke Co., The, Cincinnati, O.
*Missouri-Central Type Foundry, Wichita, Kans.
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.
*Nevraumont & Son, Inc., J. R., 243 Vallejo St., San Francisco, Calif.
Padgett Any-Angle Furniture Co., 2019 Bryan St., Dallas, Texas.
Parker Wire Goods Co, Worcester, Mass.
Powers Precision Lock-Up Furniture Co., Bayonne, N. J.

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O. 13**

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. 93**

*Wallin, G. E., 807 N. 35th St., Omaha, Nebr.
*Waters, Edward T., 1807 Pinkney St., Omaha, Nebr.
Western Pipe & Steel Co., 2824 Vermont St., Blue Island, Ill.

G

GALLEY CABINETS, LABEL HOLDERS AND LOCKS
See Cabinets, etc.

GALLEY RACKS AND STORAGE SYSTEMS
See Cabinets.

GALLEY TRAYS
See Galleys, etc.

GALLEY TRUCKS
See Trucks.

GALLEYS (BRASS AND STEEL GALLEYS, MAILING GALLEYS, GALLEY LABEL HOLDERS AND GALLEY LOCKS)
*American Steel Chase Co., 122 Centre St., New York City.
*Challenge Machinery Co., The, Grand Haven, Mich.

GANG STITCHERS
See Stitching Machines.

GAS BILL FOLDING MACHINES
See Feeders, Folders, etc.

GAS BURNERS OR HEATERS (FOR PRESSES)
See Electric and Gas Heaters.

GAS INK DRIERS
See Electric and Gas Heaters.

GASOLINE CANS
See Cans.

GATHERER, WIRE STITCHER AND COVERER
See Bookbinding Machinery.

GATHERING MACHINES
See Assembling, etc., Machines.

GATHERING TABLES
See Tables.

GAUGE PINS, GRIPPERS AND GUIDES
*Booten, C. H., & Co., 304 Second Ave., Gallipolis, O.

***BRANTJEN & KLUGE, 653 Gaultier St., St. Paul, Minn. 46**

*Casper Gripper Co., The, 357 Bangor Bldg., Cleveland, O.
*Clark, E. C., 3630 Bloomington Ave., Minneapolis, Minn.
Grove, Jacob R., Co., 3708 Fulton St. N. W., Washington, D. C.

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill. 105**

*Larson, Ralph T., 35 Beekman St., New York City.
*Megill, The Edward L., Co., 761 Atlantic Ave., Brooklyn, N. Y.
*Stiles, Charles L., 64 Hanford St., Columbus, O.
*Strait, H. H., 9510 Milton Ave., Overland, Mo.
*Welsh, C. L., Pleasantville, N. J.

GAUGES
a. Paper Strength and Thickness Gauges and Paper Sheet Scales.
b. Type Gauges or Computers
c. Type High or Plate Gauges
d. Roller Gauges

***BOBEMETER MFG. CO., 1730 Standard Bank Bldg., Cleveland, O.**—*c* **26**

BLACK ROCK MFG. CO., Bridgeport, Conn.—*d* **21**

Brown & Sharpe Mfg. Co., Providence, R. I.—*a.*
*Challenge Machinery Co., The, Grand Haven, Mich.—*c.*

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc.**—*a-c* **22**

DUST-LESS EQUIPMENT CO., 1406 Monroe St., N. E., Washington, D. C.—*d* **107**

*Kemper, R. E., North Chatham, N. Y.—*a.*
*Memler, Eugene, Box 697 Arcade Bldg., Los Angeles, Calif.—*d.*
*Morgan Expansion Roller Truck Co., 6368 Hollywood Blvd., Hollywood, Calif.—*c.*
Perkins, B. F., & Son, Inc., Holyoke, Mass.—*a.*

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.**—*b-c* **93**

***STAR TOOL WORKS, Shuey Factories Bldg., Springfield, O.**—*b-c* **121**

*Strait, H. H., 9510 Milton Ave., Overland, Mo.—*b-c.*
Toledo Scale Co., Toledo, O.—*a.*
Zenke, H. C., 8927 120th St., Richmond Hill, New York City—*c.*

GEARS, SILENT
See Variable Speed Pulleys.

GILDING BOARDS, PRESSES AND WHEELS
See Bookbinding Machinery.

GLASS TOP REGISTER TABLES
See Line-Up and Register Systems.

GLUE
See Adhesives.

GLUE HEATERS AND POTS
Acme Electric Heating Co., 1217 Washington St., Boston, Mass.
Sta-Warm Electric Co., Ravenna, O.
Wallace, J. D., & Co., 134-158 S. California Ave., Chicago, Ill.

GLUING, GUMMING, LABELING, LINING, MOUNTING, PASTING, AND COMBINING MACHINERY (INCLUDES DRYING OVENS FOR GUM AND VARNISH)
Doepel, J. E., Co., 621-623 Cherry St., Philadelphia, Pa.

***KOHLER BROS., 410 N. Michigan Ave., Chicago, Ill. 18**

*Marresford, Wm. F., Inc., College and Highland Aves., Niagara Falls, N. Y.
Mayer Coating Machines Co., Inc., 520 Scottsville Rd., Rochester, N. Y.
*Minkow, Robert, Machine Co., 167 Wooster St., New York City.
*Parry, Samuel R., Machine Co., Inc., 224 Mill, Rochester, N. Y.
*Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y.
Vierangel Machine Co., The M., 360 Troutman St., Brooklyn, N. Y.

GOLD CUSHIONS
See Bookbinding, Machinery, etc.

GOLD INK
See Bronze Powders and Metallic Ink.

GOLD LETTERING AND STAMPING PRESSES
See Die Stamping, etc., Presses.

GOLD ROLLERS
See Rollers.

GOLD RUBBER
See Bookbinding Machinery, etc.

GOLD STAMPING PRESSES
See Die Stamping, etc., Presses.

GORDON PRESS CHASES
See Chases, etc.

GRAINED ALUMINUM, COPPER AND ZINC PLATES
See Aluminum, etc.

GRAINING MACHINES, LITHOGRAPHIC AND OFFSET PLATE
See Lithographic and Offset Plate Making, etc.

GRAVURE PRESSES
See Printing Presses.

GRAVURE ROLLERS
See Rollers.

GREETING CARD FOLDING MACHINES
See Feeders, Folders, etc.

GRINDING EQUIPMENT FOR RUBBER ROLLERS
See Rubber Roller Grinding Equipment.

GRINDING AND GROOVING OF CYLINDERS
See Spiral Grooved Plate Cylinders.

GRINDING MACHINES AND WHEELS, TOOL
See Sawing, Trimming, etc., Machinery.

GRIPPER, PERFORATING AND SCORER FOR JOB PRESSES
See Perforating Punching, etc., Machinery.

GRIPPERS
See Gauge Pins.

GROOVING MACHINES, CARDBOARD
Carton and Paper Box Makers' Machinery.

GUARDS, SAFETY (INCLUDES BELT, CUTTER, FEEDER, GEAR, WHEEL GUARDS, ETC.)
*Challenge Machinery Co., The, Grand Haven, Mich.
Surty Mfg. Co., The, 4139 W. Kinzie St., Chicago, Ill.
*Trapp & Kuehnle, 253 Pearl St., New York City.

GUIDES
See Gauge Pins.

GUMMED TAPE MOISTENERS
See Tape Moisteners.

GUMMED TAPE PRINTING MACHINES
See Printing Presses.

GUMMING MACHINES
See Gluing, Gumming, etc., Machinery.

GUMS, LABEL AND ENVELOPE
See Adhesives.

H

HALFTONE SCREENS
See Cameras.

HAND LEVER PAPER CUTTERS
See Cutting and Trimming Machines.

HAND MITERING MACHINES
See Lead, etc., Cutting Machines.

HAND PERFORATORS
See Perforators, Punches, etc.

HAND PLANERS, TYPE HIGH
See Sawing, Trimming, etc., Machinery.

HAND PRESSES
See Printing Presses.

HAND PROOF PRESSES
See Proof and Test Presses.

HAND ROLLERS
See Rollers.

HAND STABBERS
See Bookbinding Machinery.

HAND TRIMMERS (PLATE)
See Shoot Boards.

HANGER LOOPS AND TIN STRIPS
See Tin Mounting Machines, etc.

HEADBANDING AND LINING MACHINES
See Bookbinding Machinery.

HEADING CHASES
See Chases, etc.

HEAT CONTROLLERS
For Stamping Presses — See Die Heaters, etc.
Stereotype and Type Metal — See Dynamos, etc., Feeders, etc.

HEATERS, ELECTRICAL, METAL
See Dynamos, etc., and also Stereotypers' Machinery.

HEATERS (GAS FOR PRESSES)
See Electric and Gas Heaters.

HINGED PAPER COVERERS
See Bookbinding Machinery, etc.

HONEYCOMB BASE
See Plate Mounting Equipment.

HOOKS (REGISTER)
See Plate Mounting Equipment.

HOT CURVED FINISHING SADDLES
See Stereotypers' Machinery.

HOT EMBOSSING BLOCKS
See Die Heaters.

HOT EMBOSSING AND STAMPING PRESSES
See Die Stamping, etc., Presses.

HUMIDIFIERS AND HUMIDITY REGISTERING DEVICES
See Air and Paper Conditioning Equipment.

HUMIDORS (DRY MAT)
See Stereotypers' Machinery, etc.

HYDRAULIC LEAD, MAT AND WAX MOULDING PRESSES
See Stereotypers' Machinery, etc.

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IMITATION LEATHER
See Cloth, etc.

IMPOSING FRAMES, SURFACES AND TABLES
*Challenge Machinery Co., The, Grand Haven, Mich.

IMPOSING MACHINES
See Line-Up and Register Machines.

IMPOSING SURFACE PROOF PRESSES
See Proof, etc., Presses.

IMPRINTING AND NUMBERING MACHINES
See Printing Presses.

IMPRINTS
See Logotypes, under Type.

INCLINED AND LIFT TRUCKS
See Trucks.

INDEX CARD CUTTERS (PRINTERS AND RULERS)
See Printing Presses.

INDEX CUTTERS AND PRINTERS
See Printing Presses.

INDEX TAB, PASSBOOK WINDOW AND INDEX CARD CUTTING MACHINES
See Round Corner Cutters, etc.

INDIVIDUALIZING ADDRESSING MACHINES
*Challenge Machinery Co., The, Grand Haven, Mich.

INGOT CASTING MACHINES
See Metal Feeders, etc.

INK (LETTERPRESS, LITHOGRAPHIC, OFFSET, PLATE PRINTING, ROTAGRAVURE AND WATER COLOR INKS, DRYERS, REDUCERS, AND VARNISH)

a. Dryers
b. Letterpress
c. Lithographic and Offset
d. Plate Printing
e. Reducers
f. Rotagravure
g. Varnish
h. Water Color
i. Dry Colors
j. Engravers

Acheson Ink Co., 142 Skillen St., Buffalo, N. Y.— *a-b-c.*
Acme Printing Ink Co., 1315 W. Congress St., Chicago, Ill.— *b-c.*
Auld, Hampton, Inc., 104-106 Verona Ave., Newark, N. J. — *a-b-c-g-"bodygum."*
Baer Bros. Co., 438 W. 37th St., New York City — *g.*
Ben Day, Inc., 118 E. 28th St., New York City — *j.*
Braden-Sutphin Ink Co., The, 1736 E. 22nd St., Cleveland, O.— *b-c-g-h.*
Carlson, John P., Inc., 420-428 Carroll St., Brooklyn, N. Y.—*b-c-h.*
Crescent Ink & Color Co., of Pa., 464 N. Fifth St., Philadelphia, Pa.— *a-b-c-g.*
*Doyle, The J. E., Co., 310 Lakeside Ave., Cleveland, O.— *a-e.*
*Gebhard Bros., 328 Woodward Ave., Detroit, Mich.— *b.*
*General Printing Ink Co., 100 Sixth Ave., New York City.
George H. Morrill Co. Div.— *a-b-c-g-n.*
Sun Chemical & Color Co. Div.— *i.*
Sigmund-Ullman Div.— *a-b-c-g-h.*
Eagle Printing Ink Co. Div.— *b-c.*
Fuchs & Lang Mfg. Co. Div.— *b-c.*
Frank H. Stevens Co. Div.— *b-c.*

HERRICK, WM. C., INK CO., 401 W. 33rd St., New York City — *a-b-c-g-i* **122**

Hill-Hentschel Co., 301 S. Vandeventer St., St. Louis, Mo.— *b-c.*

INTERNATIONAL PRINTING INK CORP., 75 Varick St., New York City — *a-b-c-e-f-g-h-i* **10-11**

Johnson-King Co., 515 S. Wells St., Chicago, Ill.— *a-b-c-d-f-g-j.*
Kienle & Co., 33 Nassau Ave., Brooklyn, N. Y.— *b-c.*
Mayer, Robt., Co., Inc., 1107 Grand St., Hoboken, N. J. — *b-c-g.*
*Morida Mfg. Co., 32 Oliver St., Boston, Mass.— *a.*
Oroline Products Co., 127 W. Harrison St., Chicago, Ill.— *g.*
Robert's, Lewis, Inc., 72 Union St., Newark, N. J.— *a-b-c-g-h.*
Roosen, H. D., Co., 78 Twentieth St., Brooklyn, N. Y. — *a-b-c-f-h-i.*
Senefelder Co., The, Inc., 32 Greene St., New York City. — *b-c.*
Siebold, J. H. & B. G., Inc., 47 Watte St., New York City — *b-c-i.*
Sinclair & Carroll Co., Inc., 591 Eleventh Ave., New York City — *a-b-c-g-h.*
Standard Printing Ink Co., 1644 Providence St., Cincinnati, O.— *a-b-c-d-g.*
Wax Refining Co., 720 S. Dearborn St., Chicago, Ill.—*a-b.*

INK FOUNTAINS, FOUNTAIN DIVIDERS, FOUNTAIN KNIVES, FOUNTAIN RECTIFIERS, INK VIBRATORS
*Acme Printing Appliance Co., The, 333 S. Clinton St., Chicago, Ill.
*Doyle, The J. E., Co., 310 Lakeside Ave. N. W., Cleveland, O.
*Missouri-Central Type Foundry, Wichita, Kans.
*Nicholson, J. C., 693 Mission St., San Francisco, Calif.
*Page, Robert R., 225 E. 24th St., New York City.
*Sta-Tite Fountain Divider Co., 629 Gough St., San Francisco, Calif.
Weldon, C. F., Geneva St., Lake Geneva, Wisc.

INK AGITATORS, DISTRIBUTORS, ETC.
*Acme Multicolor Co., 117 N. Wells St., Chicago, Ill.
*Acme Printing Appliance Co., The, 333 S. Clinton St., Chicago, Ill.
*Challenge Machinery Co., The, Grand Haven, Mich.
*Doyle, The J. E., Co., 310 Lakeside Ave., N. W., Cleveland, O.
*Ortleb Corp., 2513 Baldwin St., St. Louis, Mo.
Weldon, C. F., Geneva St., Lake Geneva, Wisc.

INK CABINETS
See Cabinets.

INK KNIVES
See Knives.

INK MILLS, MIXERS AND SLABS
*Excello Machine Co., 412 Umatilla St., Grand Rapids, Mich.
*General Printing Ink Co., Rutherford Machinery Div., 100 Varick St., New York City.
Read Machinery Co., Inc., York, Pa.

INK OXIDIZING, SETTING AND NEUTRALIZING APPARATUS
See Electric and Gas Heaters, etc.

INK PUMPS
See Pumps.

INK SOLVENT
See Cleaning Compounds.

INK VIBRATORS
See Ink Fountains, etc.

INKING UNITS (FOR PROOF PRESSES)

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc.** **22**

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill.** **105**

***VANDERCOOK & SONS, INC., 900 N. Kilpatrick Ave., Chicago, Ill.** **79**

INSERTING MACHINES AND MAILING MACHINES
*Christensen Machine Co., The, 100 Fourth St., Racine, Wisc.
*Dexter Folder Co., 28 W. 23rd St., New York City.
*Sheridan, T. W. & C. B., Co., 135 Lafayette St., New York City.

INSURANCE POLICY AND INSERT FOLDING MACHINES
See Feeders, Folders, etc.

INTAGLIO PRINTING EQUIPMENT
See Rotagravure Printing Machinery, Printing Presses.

INTERLOCKING PAGE FRAMES
See Chases, etc.

INTERTYPE METAL
See Metals.

IRON FURNITURE
See Furniture and Reglet.

IRON GROOVED BLOCKS
See Plate Mounting Equipment.

IRON IMPOSING TABLES AND SURFACES
See Imposing Frames, etc.

IRON NEWSPAPER BASES
See Plate Mounting Equipment.

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JAPAN DRYERS
See Ink.

JIG SAWING AND DRILLING MACHINES AND BLADES
See Sawing, Trimming, etc., Machinery.

JOB BACKING MACHINES
See Bookbinding Machinery.

JOB FOLDERS
See Feeders, Folders, etc.

JOB LOCKS
See Chases.

JOB PRESS CHASES
See Chases, etc.

JOB PRESS FEEDERS
See Feeders, Folders, etc.

JOB PRESSES
See Printing Presses.

JOB STICKS
See Composing Make-Up Rules and Sticks.

JOB STICKS
See Composing Make-Up Rules and Sticks.

JOGGER BOXES
*Southworth Machine Co., 30 Warren Ave., Portland, Me.

JOGGING MACHINES
*Southworth Machine Co., 30 Warren Ave., Portland, Me.

JOGGING TABLES
See Jogging Boxes.

JOINT RODS
See Bookbinding Machinery.

K

KEYS AND QUOINS
See Chases.

KNIFE GRINDING MACHINES
See Cutting and Trimming Machines, etc.

KNIFE GUARDS
See Guards.

KNIVES (INK AND MAKEREADY OR OVERLAY KNIVES FOR BOOKBINDERS' CUTTING AND PARING KNIVES
See Bookbinding Machinery; For Cutting Machine Knives, see Cutting and Trimming Machines; For Ink Fountains, see Ink Fountains.
Loyd, John Co., 87 Walker St., New York City.

***ROBERTSON, R. R., 400 W. Madison Ave., Chicago, Ill.** **117**

KNOTTING, LOOPING, THREAD STITCHING AND STRINGING MACHINES
*Smyth Co., Jos. E., 343 S. Dearborn St., Chicago, Ill.
Ward & McLean, 91 Main St., Lockport, N. Y.

L

LABEL CUTTING MACHINES
See Cutting and Trimming Machines

LABEL AND ENVELOPE GUMS
See Adhesives.

LABEL HOLDERS, GALLEYS
See Galleys.

LABEL PASTING MAILERS
See Mailers and Mailing Machines.

LABELING AND LABEL GUMMING MACHINES
See Gluing, Gumming, etc., Machinery.

LABEL PRINTING, EMBOSSING AND FINISHING MACHINES
See Printing Presses.

LABOR SAVING FURNITURE
See Furniture, etc.

LADLES AND SKIMMERS
See Stereotypers' Machinery, etc.

LAMPS FOR PHOTOENGRAVERS
See Photoengravers' Equipment and Supplies.

LEAD AND MAT MOULDING PRESSES
See Stereotypers' Machinery, etc.

LEAD, RULE AND SLUG CASTING MACHINES
See Composing and Slug and Type Casting Machines.

LEAD TYPE TRUCKS
See Trucks.

LEAD, RULE AND SLUG CUTTING AND MITERING MACHINES
See Sawing and Trimming, etc., Machinery.
*American Steel Chase Co., 122 Centre St., New York City.
*Automatic Saw Sharpening Co., 735 E. Ohio St., Indianapolis, Ind.
*Economy Lead Cutter Co., 144 E. Highland Ave., Milwaukee, Wisc.
*Hammond Machinery Builders, Inc., 1600 N. Douglas Ave., Kalamazoo, Mich.

***MILLER PRINTING MACHINERY CO., 1117 Reedsdale Ave., Pittsburgh, Pa.** ..... **Insert, 76-77**

*Missouri-Central Type Foundry, Wichita, Kans.
*Mohr Lino-Saw Co., 609 W. Lake St., Chicago, Ill.

***NELSON, C. B., & CO., 727 S. Dearborn St., Chicago, Ill.** **80**

*Printers' Equipment Mfg. Co., 1408 Adams St., Toledo, O.

***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich.** **129**

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** .. **93**

*Sypher-Arcon Co., 1524 Fernwood Ave., Toledo, O.

LEADS AND RULE (LEADS, METAL RULE, QUADS SLUGS AND SPACES)
For Brass Rule and Brass and Copper Thin Spaces, see, Brass Rule; for Cutting, Creasing and Perforating Rule, see Cutting, Rule; for Vertical Tabular Rule, see Breaches.

*American Steel Chase Co., 122 Centre St., New York City.
*Bauer Type Foundry, Inc., The, 235 E. 45th St., New York City.
*MacKenzie & Harris, Inc., 659 Folsom St., San Francisco, Calif.
*Mann-O-Type Foundry, 317 E. 4th St., Los Angeles, Calif.

***MARGACH MFG. CO., INC., 213 Centre St., New York City** **5**

*Printers Supply Service, 719 S. Dearborn St., Chicago, Ill.
*Taylor, W. E., Co., 209 W. 38th St., New York City.

LEAF ATTACHMENTS FOR STAMPING PRESSES
See Die Stamping Presses.

LEAF STAMPING PRESSES
See Die Stamping Presses.

LEATHER AND LEATHER SUBSTITUTES
See Cloth.

LEATHER PARING MACHINES
See Bookbinding Machinery.

LEATHER ROLLERS
See Rollers.

LENSES AND PRISMS
See Cameras.

LETTERBOARDS
See Cabinets.

LETTERING MACHINES
See Lithographic and Offset Plate Making and Printing Equipment and Supplies.

LEVELING OR SMASHING MACHINES
See Bookbinding Machinery.

LEVER PAPER CUTTERS
See Cutting and Trimming Machines, etc.

LIBRARY BOOK FINISHING MACHINES
See Bookbinding Machinery.

LIBRARY PASTE
See Adhesives.

LIFT TRUCKS
See Trucks.

LIFTS
See Paper Lifts.

LINE CASTING MACHINES
See Composing Machines.

LINE GAUGES
See Gauges.

LINE-UP AND REGISTER MACHINES, SYSTEMS AND TABLES
*Craftsman Line-Up Table Corp., 49-59 River St., Waltham, Mass.

***LANSTON MONOTYPE MACHINE CO., 24th and Locust Sts., Philadelphia, Pa.** **52**

*Premier Register Table Co., Inc., 170 Summer St., Boston, Mass.

LINING-UP AND HEAD BANDING MACHINES
See Bookbinding Machinery.

LINO SLUG ROUTERS
See Lead, Rule and Slug Cutting and Mitering Machines.

LINO SLUG ROUTERS

***MARGACH MFG. CO., INC., 213 Centre St., New York City** **5**

LINOTYPE POSITIVE ASSEMBLERS
See Composing Machines.

LINOTYPE METAL
See Metals.

LIQUID DRIERS
See Ink.

LIQUID GLUE
See Adhesives.

LIST PRESSES
See Mailers.

LITHO COMPOSING MACHINES
See Lithographic and Offset Plate Making and Printing Equipment and Supplies.

LITHOGRAPHERS' LINE-UP TABLES
See Line-Up and Register Machines.

LITHOGRAPHERS MACHINERY DRIVES
See Dynamos, etc.

LITHOGRAPHIC CHEMICALS
See Lithographic and Offset Plate Making, etc.

LITHOGRAPHIC HAND PRESSES
See Printing Presses.

LITHOGRAPHIC INKS
See Ink.

LITHOGRAPHIC AND OFFSET CAMERAS
See Cameras.

LITHOGRAPHIC AND OFFSET PLATE MAKING AND PRINTING EQUIPMENT AND SUPPLIES
Chemicals, Cloth, Dampening Devices, Duplicating Machines, Lettering Machines, Photo Composing Machines, Metal Dusting Machines, Plate Coating Machines, Plate Graining Machines, Roller Cleaning Machines, Solution, Scrapers, Stick-Up Sheets, Stones and Stone Grinders, Planers and Ruling Machines, Transfer Presses, Vacuum Printing Frames. For Aluminum and Zinc Plates, see Aluminum, etc.; see also Blankets, Ink, Rollers, Printing Presses.

Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.
*Bakke, L. A., 701 S. Washtenaw Ave., Chicago, Ill.
Ben Day, Inc., 118 E. 28th St., New York City.
Clean-A-Press Machine Co., 821 Third St., Des Moines, Ia.
*Dietzgen, E., Co., 2425 Sheffield Ave., Chicago, Ill.
*Eureka Photo Mechanical Equip., Inc., 350 W. 31st St., New York City.
*Gegenheimer, Wm. Inc., 78 Roebling St., Brooklyn, N. Y.
*General Printing Ink Corp., 100 Sixth Ave., New York City, Rutherford Machinery Co. Div.

***HOE, R., & CO., 138th St. and East River, New York City** **56-57**

Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.
*International Press Cleaner & Mfg. Co., Inc., 1265 W. 2nd St., Cleveland, O.
*International Intaglio Corp., 45 W. 45th St., New York City.
Korn, Wm., Inc., 120 Centre St., New York City.

***LANSTON MONOTYPE MACHINE CO., 24th and Locust Sts., Philadelphia, Pa.** **52**

Litho Supply & Mfg. Co., Sheldon and Lake Sts., Chicago, Ill.
*Lorenz & Co., Rose and Duane Sts., New York City.
*Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa.
*Monsen & Son, Inc., Thormod, 730 N. Franklin St., Chicago, Ill.
Nikolas, G. B., & Co., Inc., 1227 W. Van Buren St., Chicago, Ill.
Philadelphia Felt Co., Wingohocking and O Sts., Frankford, Philadelphia, Pa.

***ROBERTSON, R. R., 400 W. Madison Ave., Chicago, Ill.** **117**

Rogers Isinglass & Glue Co., Gloucester, Mass.
Senefelder Co., The, Inc., 32 Greene St., New York City.
*Standard Process Co., 734 Mather St., Chicago, Ill.
*Sweigard Ideal Co., 6122 N. 21st St., Philadelphia, Pa.
*Wesel, F., Mfg. Co., Scranton, Pa.
*Wagner, Chas., Litho Mchy. Co., Inc., 51-55 Park Ave., Hoboken, N. J.
*Zarkin Machine Co., Inc., 365 Cherry St., New York City.

LITHOGRAPHIC ROLLERS
See Rollers.

LITHOGRAPHIC RULING MACHINES
See Lithographic and Offset Plate Making Equipment adn Supplies.

LOCKS, STEEL
See Cabinets, etc.

LOCK-UP TABLES
See Imposing Frames, etc.

LOCK-UP WRENCHES
See Chases.

LOCK-UPS
See Chases.

LOGOTYPES OR IMPRINTS
See Type.

LOOPING, KNOTTING AND STRINGING MACHINES
See Knotting, etc., Machines.

LOOSE LEAF METAL (PARTS AND FITTING, INCLUDING BOOK LOCKS AND BINDING POST AND SCREWS)
Baker-Vawter Co., 4th and Park Sts., Benton Harbor, Mich.

LOW SLUG ATTACHMENT (FOR SAWING MACHINES)
See Sawing, Trimming, etc., Machinery.

LOW SLUG CUTTER, HAND
See Lead Rule and Slug Cutting and Mitering Machines. Also see Sawing, Trimming, Machinery.

LUDLOW METAL
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LUNCH COUNTER AND RESTAURANT CHECK PRINTING AND FINISHING MACHINES
See Printing Presses.

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MACHINE BASES
See Vibration Absorbing, etc.

MACHINE GUM
See Adhesives.

MACHINE TENDERS' AND MACHINISTS' WORK BENCHES
See Tables.

MAGAZINE CABINETS OR RACKS
See Cabinets.

MAGAZINE MAILING FOLDERS
See Feeders, Folders, etc.

MAGAZINE PRINTING AND FINISHING PRESSES
See Printing Presses.

MAGAZINE ROTARY PRESSES WITH FOLDERS
See Printing Presses.

MAGAZINE SHEET FEED PRESSES WITH FEEDERS
See Printing Presses.

MAGAZINE WRAPPER PRINTING AND WRAPPING MACHINES
See Mailers and Mailing Machines.

MAGAZINES (FOR COMPOSING MACHINES)
See Composing Machines and Supplies.

MAGNETIC SPEED CONTROLS FOR ELECTRIC MOTORS
See Dynamos, etc.

MAGNIFYING AND REDUCING GLASSES
Bausch & Lomb Optical Co., Rochester, N. Y.
*Page, Robert R., 225-227 E. 24th St., New York City.

MAILING GALLEYS
See Galleys.

MAILERS, MAILING MACHINES AND MAILING STRIP POINTERS
*Anderson & Co., C. F., 3225 Calumet Ave., Chicago, Ill.
*Challenge Machinery Co., The, Grand Haven, Mich.
Cheshire Mailing Machines, 1016 N. Dearborn St., Chicago, Ill.
Dick's Patent Mailer, 137 W. Tupper St., Buffalo, N. Y.
Pitney-Bowes Postage Meter Co., 723 Pacific St., Stamford, Conn.
Vierangel Machine Co., The M., 360 Troutman St., Brooklyn, N. Y.
*Wing's Sons, Chauncey, 78 Pierce St., Greenfield, Mass.

MAILING MACHINE PASTE
See Adhesives.

MAILING PASTE POTS
See Glue Heaters and Pots.

MAILING TABLES
See Tables.

MAKE-READY PASTE
See Adhesives.

MAKE-READY TABLES
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MAKE-UP MACHINES
See Line-Up, etc., Machines.

MAKE-UP MAN'S CUTTER
See Lead, etc.

MAKE-UP RULES
See Composing and Make-Up Rules and Sticks.

MAKE-UP TABLES
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MAKE-UP TRUCKS
See Form Lifts, etc.

MALLETS
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MAMMOTH IRON FURNITURE
See Furniture, etc.

MANIFOLD FORM PRINTING AND MAKING MACHINES
See Printing Presses.

MARBLE IMPOSING SURFACES
See Imposing Frames, Surfaces and Tables.

MARK-OUT TABLES
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MAT AND MOUNT BOARD
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MATERIAL RACKS
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MATRIX (BLACK AND WHITE)

***MATRIX CONTRAST CORP., Empire State Bldg., New York City** **34**

MATRIX ANVILS
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MATRIX CABINETS
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MATRIX CLEANERS
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MATRIX DRYING TABLES
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MATRIX AND MOLD CABINETS
See Cabinets.

MATRIX MOULDING PRESSES
See Stereotypers' Machinery.

MATRIX PAPERS
See Paper and Board.

MATRIX PARTING POWDER
See Stereotypers' Machinery.

MATRIX PASTE
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MATRIX RESHAPER
See Composing Machines and Supplies.

MATRIX ROLLING MACHINES
See Stereotypers' Machinery.

MATRIX SCORCHERS
See Stereotypers' Machinery.

MATRIX SHEARS
See Shears.

MATRIX TISSUE HOLDERS
See Stereotypers' Machinery.

MECHANICAL OVERLAYS
See Overlays.

METAL BEVELING MACHINES
*Elgin Bending Machine Co., Elgin, Ill.

***HOE, R. & CO., 138th St. and East River, New York City 56-57**

***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich. 129**

Royle & Sons, John, Inc., Straight and Essex Sts., Patterson, N. J.
*Wesel, F., Mfg. Co., Scranton, Pa.

METAL CLEANER AND FLUX
See Metals.

METAL COATING
See Foil.

METAL DECORATING PRESSES
See Printing Presses.

METAL DROSS SIFTERS
See Stereotypers' Machinery.

METAL DUSTING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

METAL EDGING MACHINES
See Tin Mounting Machines.

METAL FEEDERS, FURNACES, INGOT CASTERS, INGOT MOLDS, MELTING POTS, DROSS AND METAL RENOVATORS, STEREOTYPE POT HEATERS, THERMOMETERS, PYROMETERS
*Automatic Furnace Co., 112 Charlton St., New York City.

CHANNING, ALFRED W., St. Albans, New York City 128

Coffing-Hoist Co., 313 E. Van Buren St., Danville, Ill.
Independent Electric Machinery Co., 300 S. W. Blvd., Kansas City, Mo.

***INTERTYPE CORP., 360 Furman St., Brooklyn, N. Y. ..... outside back cover**

Illinois Testing Laboratories, Inc., 141 W. Austin Ave., Chicago, Ill.

KEMP, C. M., MFG. CO., THE, 405 Oliver St., Baltimore, Md. 31

***MARGACH MFG. CO., INC., 213 Centre St., New York City 5**

***MERGENTHALER LINOTYPE CO., 29 Ryerson St., Brooklyn, N. Y. 43**

Mishawaka Industrial Instrument Mfg. Co., 936 Washington Ave., Mishawaka, Ind.
*Missouri Central Type Foundry, 701 E. Murdock Ave., Wichita, Kans.
*Monarch Engineering & Mfg. Co., The, Curtis Bay, Md.

***MONOMELT CO., INC., THE, 1611 Polk St., Minneapolis, Minn. 127**

Partlow Corp., The, 2 Campion Rd., New Hartford (suburb of Utica), N. Y.
Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.

ZELLNER FOUNDRY CO., THE, 2088 Scranton Rd., Cleveland, O. 129

METAL FURNITURE
See Furniture and Reglet.

METAL GALLEY CABINETS
See Cabinets.

METAL IMPOSING SURFACES
See Imposing Frames, Surfaces and Tables.

METAL LADLES
See Stereotypers' Machinery.

METAL LEAF
See Foil.

METAL RULE
See Leads and Rule

METAL SCOOPS
See Trucks.

METAL SKIMMERS
See Stereotypers' Machinery.

METAL STORAGE EQUIPMENT
See Cabinets, Trucks.

METAL TRUCKS
See Trucks.

METALS, METAL CLEANERS AND FLUXES
Belmont Smelting & Refining Works, Inc., 318 Belmont Ave., Brooklyn, N. Y.

BLATCHFORD, E. W., CO., 63 Park Row, New York City 4

Division Lead Co., 836 W. Kinzie St., Chicago, Ill.
Eastern Smelting & Refining Co., 107-109 Brookline St. Boston, Mass.
Empire Metal Co., 820 E. Water St., Syracuse, N. Y.
Federated Metals Corp., 600 W. 41st St., Chicago, Ill.

IMPERIAL TYPE METAL CO., Chicago, New York, Philadelphia, Los Angeles .. inside back cover

Metals Refining Co., P. O. Box 1318, Hammond, Ind.
North American Smelting Co., Inc., 9th and Thompson Sts., Philadelphia, Pa.

***PERFECTION TYPE, INC., 141 E. 5th St., St. Paul, Minn. 129**

Philadelphia Thermometer Co. 915 Filbert St., Philadelphia, Pa.
Pittsburgh White Metal Co., Inc., Pittsburgh, Pa., and New York City.
Reco Products Co., 136 N. 12th St., Minneapolis, Minn.
Rex Metal Works, 117 Spokane St., Seattle, Wash.
United American Metals Corp., 200 Diamond St., Brooklyn, N. Y.

METALLIC INK (BRONZE)
See Bronze Powders and Metallic Ink.

MICROMETER COMPOSING STICKS
See Composing, etc., Sticks.

MICROMETER LINE-UP TABLES
See Line-Up and Register Machines.

MILEAGE BOOK PRINTING AND MAKING MACHINES
See Printing Presses.

MILK BOTTLE CAP PRINTING AND PUNCHING MACHINES
See Printing Presses.

MITER BOXES
See Tools.

MITERING MACHINES
See Lead, Rule and Slug Cutting and Mitering Machines. Also Sawing, Trimming, etc., Machinery.

MOISTURE CONTROL DEVICES
See Lithographic and Offset Lithographic and Offset Plate Making Equipment and Supplies.

MOLESKIN ROLLERS
See Rollers.

MOLLETON
See Lithographic and Offset Plate Making, Equipment and Supplies.

MOLLETON ROLLERS
See Rollers.

MONORAIL TRIMMING MACHINES
See Sawing, Trimming, etc., Machinery.

MONOTYPE METAL
See Metals.

MOTORS, CONTROLLERS, DRIVES, ETC.
See Dynamos, etc.

MOLDING BOARD, STEREO
See Paper and Board.

MOLDING MACHINE DRIVES
See Dynamos, etc.

MOLDS, INGOT
See Metal Feeders.

MOUNTING BLOCKS
See Plate Mounting Equipment.

MOUNTING BOARD
See Paper and Board.

MOUNTING CLOTH
See Cloth.

MOUNTING GUMS
See Adhesives.

MOUNTING MACHINES.
See Gluing, Gumming, Machinery.

MOVERS

KRASILOVSKY, M., & BRO., INC., 216 Centre St., New York City 110

MUCILAGE
See Adhesives.

MULTICOLOR PRESSES
See Printing Presses.

MULTICOLOR PROOF PRESSES, POWER AUTOMATIC
See Proof and Test Presses.

MULTICOLOR ROTARY PRINTING PRESSES
See Printing Presses.

MULTICOLOR ROTAGRAVURE PRESSES
See Rotagravure under Printing Presses.

MULTICOLOR UNIVERSAL UNIT PRESSES
See Printing Presses.

MULTI-OPERATION AND MULTI-PROCESS PRINTING PRESSES
See Printing Presses.

MULTIPLE CONTACT NEGATIVE COMPOSING MACHINES
See Lithographic and Offset Plate Making, Equipment and Supplies.

MULTIPLE NEGATIVE ATTACHMENT FOR CAMERA
See Cameras.

MULTIPLE PERFORATORS AND PUNCHES
See Perforators, Punches, etc.

N

NEEDLES
See Sewing Machines.

NEGATIVE GROUPING OR PHOTO COMPOSING MACHINES
See Lithographic and Offset Plate Making, Equipment and Supplies.

NEUTRALIZERS, ELECTRIC STATIC
See Electric and Gas Heaters.

NEWS COMPOSING STICKS
See Composing, etc., Sticks.

NEWS INKS
See Ink.

NEWSPAPER BASES
See Plate Mounting Equipment.

NEWSPAPER BINDERS, FILES AND RACKS

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. .. 93**

NEWSPAPER CHASES
See Chases, etc.

NEWSPAPER FOLDERS
See Feeders, Folders, etc.

NEWSPAPER MAILING FOLDERS
See Feeders, Folders, etc.

NEWSPAPER MAKE-UP TRUCKS
See Trucks.

NEWSPAPER PRINTING PRESSES
See Printing Presses.

NEWSPAPER PROOF PRESSES
See Proof and Test Presses.

NEWSPAPER REELS, TENSION CONTROLLED

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill. 99**

NEWSPAPER AND STEREOTYPE BASES
See Plate Mounting Equipment.

NEWSPRINT PAPER ROLL TRUCKS
See Trucks.

NON-MELTABLE ROLLERS
See Rollers.

NONPAREIL COMPOSING STICKS
See Composing, etc., Sticks.

NOTCHED IRON FURNITURE
See Furniture and Reglet.

NUMBERING MACHINES
See Counters, etc.

O

OFFSET BLANKETS
See Blankets.

OFFSET CAMERAS
See Cameras.

OFFSET COLOR PROVING PRESSES
See Proof and Test Presses.

OFFSET PLATE GRAINING MACHINES
See Lithographic and Offset Plate Making, Equipment, and Supplies.

OFFSET PLATE MAKING AND PRINTING EQUIPMENT AND SUPPLIES
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET PLATE SOLUTION
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET PLATE WHIRLERS
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET PRESS ROLLER CLEANING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET PRESS ROLLER DAMPENING DEVICES
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET PRESSES
See Printing Presses.

OFFSET PREVENTING EQUIPMENT
*Craig Sales Corp., 636 Greenwich St., New York City.
*Hoy, Frank C., 519 Main St., Cincinnati, O.

***PAASCHE AIRBRUSH CO., 1909-1927 Diversey Pkwy., Chicago, Ill. 95**

*Pabish, W. R., 2855 N. Rockwell St., Chicago, Ill.

OFFSET PROOF PRESSES
See Proof and Test Presses.

OFFSET ROLLERS
See Rollers.

OFFSET STEP AND REPEAT UNITS
See Lithographic and Offset Plate Making Equipment and Supplies.

OFFSET ZINC PLATES
See Aluminum, Copper and Zinc Plates.

OIL CANS
See Cans.

OPEN SIDE GALLEYS
See Galleys.

OPEN SIDE TRUCKS
See Trucks.

OVERLAY KNIVES
See Knives.

OVERLAY TABLES
See Tables.

OVERLAYS, CHALK AND MECHANICAL
Collins, A. M., Mfg. Co., 226 W. Columbia Ave., Philadelphia, Pa.
Hoke Engraving Plate Co., 1024 Park Ave., St. Louis, Mo.

OX GALL
See Ruling Machines, etc.

OZONATING EQUIPMENT
See Air and Paper Conditioning Equipment.

P

PACKAGING AND PACKAGE TYING MACHINES
See Bundle Tying, etc.

PACKING BLANKETS
See Blankets.

PACKING ROOM TABLES
See Tables.

PAD CUTTERS
See Cutting and Trimming Machines.

PADDING ATTACHMENTS OR PRESSES
See Tableting Presses.

PADDING COMPOSITION
See Adhesives.

PAGE FRAMES
See Chases.

PAGING MACHINES
See Counters, Daters.

PALLET EMBOSSING MACHINES
See Die Stamping.

PAMPHLET COVERING MACHINES
See Bookbinding Machinery.

PAPER BALING PRESSES AND TIES
See Baling Presses and Ties.

PAPER AND BOARD

a. Binders' Board
b. Blanks
c. Blotting
d. Bond and Ledger
e. Book
f. Bristol
g. Coated Board
h. Coated Paper
i. Cover
j. Manila
k. News
l. Offset
m. Parchment
n. Post Card
o. Press Board
p. Rotagravure
q. Stereotype
r. Tag
s. Transfer
t. Tympan
u. Specialty

Albemarle Paper Mfg. Co., Box 2189, Richmond, Va.— *c-i-u.*
American Transfer Paper Co., 1759 Sunnyside Ave., Chicago, Ill.— *s.*
American Writing Paper Co., Inc., Holyoke, Mass.— *d-e-i-f-l-u.*
Beckett Paper Co., The, Hamilton, O.— *e-i-l.*

BEHR-MANNING CORP., Troy, N. Y.— *t* **92**

Brown Co., 404 Commercial St., Portland, Me.— *d-e-f-i-l-n.*
Brown, L. L., Paper Co., Adams, Mass.— *d.*
Bryant Paper Co., Kalamazoo, Mich.— *e-h-l.*
Byron-Weston Co., Dalton, Mass.— *d.*
Champion Coated Paper Co., The, Hamilton, O.— *d-f-h-g-n-o.*
Collins, Mfg., North Wilbraham, Mass.— *d-f-g.*
Collins, A. M., Mfg. Co., 226 W. Columbia Ave., Philadelphia, Pa.— *e-g-i.*
Crocker-McElwain Co., Chemical Paper Mfg. Co., Holyoke, Mass.— *d-i-f-g-l.*

CROMWELL PAPER CO., 4801 Whipple St., Chicago, Ill.— *t* **113**

Dill & Collins, Inc., Richmond and Tioga Sts., Philadelphia, Pa.— *e-g-h-i-l.*
Eastern Mfg. Co., 500 Fifth Ave., New York City.— *e-f-h-i.*
Falulah Paper Co., Fitchburg, Mass.— *g.*
Federal Paper Board Co., Inc., 24 River Road, Bogota, N. J.— *g-k-u.*
Fraser Paper, Ltd., Madawaska, Me.— *e-d-l.*
Gilbert Paper Co., Menasha, Wisc.— *d-f-i.*
Gould Paper Co., Lyons Falls, N. Y.— *j-k.*
Hammermill Paper Co., Erie, Pa.— *d-f-i-l-n-u.*
Hawthorne Paper Co., Kalamazoo, Mich.—*d-l-u.*
Hewett & Bros., C. B., Inc., 23 Greene St., New York City — *r-u.*
Holyoke Card & Paper Co., Springfield, Mass.— *b-g-h-i-r-u.*
Hurlbut Paper Co., South Lee, Mass.— *d-e-i-u.*
Inland Empire Paper Co., Millwood, Wash.— *e-k.*
International Paper Co., 220 E. 42nd St., New York City — *d-e-i-k-l-p.*
Kalamazoo Paper Co., Kalamazoo, Mich.— *e-l-u.*
Lee Paper Co., Vicksburg, Mich.— *d-e-l-u.*
Munising Paper Co., The, Munising, Mich.— *d-f-l.*
Parsons Paper Co., 84 Sargeant St., Holyoke, Mass.— *d-f.*
Patten Paper Co., Ltd., Appleton, Wisc.— *e-u.*
Peninsular Paper Co., Ypsilanti, Mich.— *i-l-u.*
Reading Paper Mills, Inc., Canal and Pine Sts., Reading, Pa.— *d-e-f-i-l-u.*
Reynolds Metal Co., 19 Rector St., New York City — *u.*
Riegel Paper Corp., 342 Madison Ave., New York City — *f-l-r-i-u.*

STAHI NEWSPAPER SUPPLY CO., INC., Oregonian Bldg., Portland, Ore.— *t* **6-7**

Strathmore Paper Co., West Springfield, Mass.— *d-e-i-u.*
Whiting Paper Co., Holyoke, Mass.— *d-e-f-u.*
Whiting Plover Paper Co., Stevens Point, Wisc.— *d-i-u.*
Wrenn Paper Co., The, Middletown, O.— *c.*
United States Envelope Co., Springfield, Mass.— *u.*

PAPER AND BOARD SHEARS AND BLADES
See Cutting and Trimming Machines.

PAPER BOX MAKERS' MACHINERY
See Carton and Paper Box Makers' Machinery.

PAPER BOX MAKING AND PRINTING MACHINES
See Printing Presses.

PAPER BREAK DETECTORS
See Dynamos, etc.

PAPER COATING LACQUER
See Ink.

PAPER CONDITIONING HANGERS
*Southworth Machine Co., 30 Warren Ave., Portland, Me.

PAPER CONDITIONING EQUIPMENT
See Air and Paper Conditioning Equipment.

PAPER COVERING MACHINES
See Bookbinding Machinery.

PAPER CUTTER BOOK GUIDES
See Bookbinding Machinery.

PAPER DRILLING AND DRILL SLOTTING MACHINES
*Challenge Machinery Co., The, Grand Haven, Mich.
*Mick, Walter K., Co., 1679 University Ave., St. Paul, Minn.
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.

PAPER CUTTING MACHINES AND KNIVES
See Cutting and Trimming Machines.

PAPER GAUGES
See Gauges.

PAPER HOLDERS FOR TYMPAN AND WRAPPING PAPER

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** **93**

PAPER JOGGING MACHINES
See Jogging Machines.

PAPER LIFTS AND TIERING MACHINES
*Berry Machine Co., 718 N. 1st St., St. Louis, Mo.
*Miehle Printing Press & Mfg. Co., 14th and S. Damon Ave., Chicago, Ill.

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** **93**

PAPER PUNCHES
See Perforating, Punching, etc.

PAPER REELS AND TENSIONS (FOR NEWSPAPER PRESSES)

***CLINE ELECTRIC MFG. CO., 211 Wacker Dr., Chicago, Ill.** **99**

***HOE, R., & CO., 138th St. and East River, New York City** **56-57**

***KOHLER BROS., 410 N. Michigan Ave., Chicago, Ill.** **18**

***MONOMELT CO., THE, INC., 1611-15 Polk St., N. E., Minneapolis, Minn.** **127**

U. S. Mfg. Co., 129 E. Market St., Indianapolis, Ind.

PAPER RULING MACHINES AND SUPPLIES
See Ruling Machines, Accessories and Supplies.

PAPER SEASONING HANGERS
See Air and Paper Conditioning Equipment.

PAPER SHEET SCALES
See Gauges.

PAPER SHEETING MACHINES
See Cutting and Trimming Machines.

PAPER SHREDDING MACHINES
See Macerating Machines.

PAPER SLITTERS AND REWINDERS
See Slitting and Rewinding Machinery.

PAPER STRENGTH TESTERS
See Gauges.

PAPER THICKNESS MICROMETERS
See Gauges.

PARAFFINING AND WAXING MACHINES
*Chambers Bros., Inc., 52nd and Media Sts., Philadelphia, Pa.
*Gibbs-Brower Co., Inc., 401 Broadway, New York City.
*International Paper Box Machinery Co., 315 Main St., Nashua, N. H.
*New Era Mfg. Co., 375 11th Ave., Patterson, N. J.
*Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y.

PARING AND CUTTING KNIVES
Bookbinders', see Knives.

PASTE
See Adhesives.

PASTE DRIERS
See Ink.

PASTE MIXERS
See Carton and Paper Box Makers' Machinery, etc.

PASTE POTS (FOR MAILING)
See Glue Heaters and Pots.

PASTING MACHINES
See Gluing, Gumming, etc., Machinery.

PATCH EYELETTERS
See Eyeletting Machines. Also see Printing Presses.

PATENT BASES OR BLOCKS
See Plate Mounting Equipment.

PATCH MACHINES
Makatag Mfg. Corp., Reading, Mass.
*Meisel Press Mfg. Co., 942 Dorchester Ave., Boston, Mass.
*New Era Mfg. Co., 375 11th Ave., Patterson, N. J.

PEBBLING, ROUGHING AND STIPPLING MACHINES
Cavagnaro, John J., 5th, Essex and 6th Sts., Harrison, N. J.
Waldron, John, Corp., New Brunswick, N. J.
*General Printing Ink Corp., Rutherford Machinery Div., 100 Varick St., New York City.
*Fuller, E. C., Co., 28 Reade St., New York City.

PEDESTAL SAW TABLES
See Sawing, Trimming, etc., Machinery.

PEN RULING MACHINES
See Ruling Machines.

PERFECTING SHEET FEED OFFSET PRESSES
See Printing Presses.

PERFORATING AND PRINTING MACHINES
See Printing Presses.

PERFORATING, PUNCHING CREASING, SCORING AND CONFETTI MAKING MACHINES, PUNCHING HEADS, PAPER DRILLING AND DRILL SLOTTING MACHINES

a. Confetti Machines
b. Perforators
c. Punches
d. Scorers and Creasers

*Berry Machine Co., 716 N. 1st St., St. Louis, Mo.— *c-d.*
*Challenge Machinery Co., The, Grand Haven, Mich.— *c.*
*Davidson Perforator Corp., 7157 68th Pl., Glendale, Brooklyn, N. Y.— *b-d.*

***HARRIS-SEYBOLD-POTTER CO., Seybold Machine Co. Div., 811 Washington St., Dayton, O.** — *b-c-d* ..... **Insert, 50-51, 110-111**

*Hoff, Leslie D., 2100 Westbury Ct., Brooklyn, N. Y.— *b-d.*
Lester & Wesley Co., The, Inc., 282 Franklin St., Norwich, Conn.— *c-b-d.*
*Myover-Stryker Co., Fredonia, Kans.— *b.*
*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.— *b.*
*Rosback, F. P., Co., Benton Harbor, Mich.— *b-c-d.*
*Southworth Machine Co., 30 Warren Ave., Portland, Me.— *c-b.*
*Steel, B. W., 1133 Maple Ave., Los Angeles, Calif.— *b.*
*Swift, George W., Inc., Bordentown, N. J.— *b-d.*
Ward & McLean, 91 Main St., Lockport, N. Y.—*c.*

PERFORATING RULE
See Cutting, Creasing and Perforating Rule.

PHOTO COMPOSING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

PHOTOENGRAVERS' LAMPS
See Photoengravers' Equipment and Supplies.

PHOTOENGRAVERS' MACHINERY DRIVES
See Dynamos.

PHOTOENGRAVERS' PROOF PRESSES
See Proof and Test Presses.

PHOTO-GELATIN ROLLERS
See Rollers.

PHOTOGRAPHIC LETTERING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

PHOTOGRAVURE PRESSES
See Printing Presses.

PHOTOENGRAVERS' EQUIPMENT AND SUPPLIES
Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.
Ben Day, Inc., 118 E. 28th St., New York City.
Booth, E. A., Rubber Co., 364 Rockefeller Bldg., Cleveland, O.
*Chemco Photo-Products, Inc., Glen Cove, L. I., N. Y.

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wis.** **22**

*Gelb, Joseph, Inc., 250 W. 54th St., New York City.
*Hackleman, Chas. W., Indianapolis, Ind.
*Hess, A., Co., 225 W. 34th St., New York City.

***HOE, R., & CO., 138th St. and East River, New York City** **56-57**

*Holmstrom, Axel, Drexel Bldg., Philadelphia, Pa.
*Johnstone Electric Co., Inc., 536 S. Clark St., Chicago, Ill.
*Levy, Max & Co., Wayne and Berkley, Philadelphia, Pa.
*Lorenz & Co., Rose and Duane Sts., New York City.
*Macbeth Arc Lamp Co., 875 N. 28th St., Philadelphia, Pa.
*Master Etching Machine Co., Drexel Bldg., Philadelphia, Pa.
*Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero, Chicago, Ill.

***ROBERTSON, R. R., 400 W. Madison Ave., Chicago, Ill.** **117**

Rogers Isinglass & Glue Co., Gloucester, Mass.

ROLLED PLATE METAL CO., 196 Van Brunt St., Brooklyn, N. Y. **119**

Royle, John & Sons, Straight and Essex Sts., Patterson N. J.
Setter Bros., Inc., Cattaraugus, N. Y.
*Sweigard Ideal Co., 6138 N. 21st, Philadelphia, Pa.
Union Rubber & Asbestos Co., Trenton, N. J.
*White Mfg. Co., 1227 W. Beardsley Ave., Elkhart, Ind.

PHOTO LITHO EQUIPMENT
See Lithographic and Offset Plate Making Equipment and Supplies.

PHOTO LITHOGRAPHIERS' SOLUTIONS
See Lithographic and Offset Plate Making Equipment and Supplies.

PICA COMPOSING STICKS
See Composing Sticks.

PILER AND JOGGERS (AUTOMATIC)
See Jogging Machines.

PINKING MACHINES AND ATTACHMENTS
See Cutting and Trimming Machines.

PLANING OR ROUGHING MACHINES
See Stereotypers' Machinery; also Sawing, Trimming Machinery.

PLANOGRAPH CAMERAS
See Cameras.

PLATE MOUNTING EQUIPMENT
Bases and Catches, Hooks, for Both Flat Bed and Rotary Presses. Also Newspaper and Stereotype Bases.

BLATCHFORD, E. W., CO., 63 Park Row, New York City ---- 4

*Challenge Machinery Co., The, Grand Haven, Mich.

CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc. ---- 22

*Latham Auto Registering Co, 608 S. Dearborn St., Chicago, Ill.
*Levison Mfg. Co., 1548 California St., San Francisco, Calif.
*Pitt, J. W., Inc., Bath, N. Y.

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O.** ---- 13

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** 93

***STAHI NEWSPAPER SUPPLY CO., 417 Oregonian Bldg., Portland, Ore.** ---- 6-7

*Unique Steel Block Co., Waverly, N. Y.
*Warnock, W. S., Co., 1524 Jonquil Terrace, Chicago, Ill.

PLATE BASE
See Plate Mounting Equipment.

PLATE BENDING, BORING, CURVING, ROUGHING AND SHAVING MACHINERY
See Stereotypers' Machinery.

PLATE CATCHES AND HOOKS
See Plate Making Equipment.

PLATE COATING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

PLATE CONVEYORS AND DROPPERS
See Stereotype Plates, Conveyors.

PLATE CORRECTING AND FINISHING MACHINES SADDLES AND TOOLS
See Stereotypers' Machinery.

PLATE CYLINDERS, HONEYCOMB
See Plate Mounting Equipment.

PLATE CYLINDERS, SPIRAL GROOVED
See Plate Mounting Equipment.

PLATE EMBOSSING HEATERS
See Die Heaters.

PLATE GAUGES
See Gauges.

PLATE GRAINING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

PLATE MORTISING AND CORRECTING MACHINES
See Stereotypers' Machinery.

PLATE MOUNTING BLOCK CLEANING OUTFITS
See Block Cleaning Outfit.

PLATE PRINTING INK
See Ink.

PLATE PRINTING PRESSES
See Die Stamping, Embossing, Pallet and Plate Presses.

PLATE RECTIFIERS AND REFORMERS
See Stereotypers' Machinery.

PLATE SHAVING MACHINES
See Stereotypers' Machinery, etc.

PLATE SOLUTION, OFFSET
See Lithographic and Plate Making, etc.

PLATE WHIRLERS OR COATERS
See Lithographic and Offset Plate Making, etc., Supplies.

PLATELESS EMBOSSING MACHINES
See Raised Letter Printing Machines.

PLATEN PRESS CABINETS
See Cabinets.

PLATEN PRESS COUNTERS
See Counters, etc.

PLATEN PRESSES
See Printing Presses.

PLOW AND PRESS
See Bookbinding Machinery, etc.

PLUSH ROLLERS
See Rollers.

POCKET TYPE HIGH GAUGES
See Gauges.

PORTABLE ELEVATORS
See Paper Lifts.

PORTABLE ROUTERS
See Sawing, Trimming, etc., Machinery.

PORTABLE SLUG SAWS
See Sawing, Trimming, etc.

POSTAGE STAMP PERFORATORS
See Perforating Machines.

POSTER CHASES
See Chases, etc.

POSTER STICKS
See Composing, etc., Sticks.

POWDER FOR RAISED PRINTING MACHINES
See Raised Letter Printing, etc.

POWER MITERING MACHINES
See Lead, etc., Cutting Machines and Sawing, Trimming, Machines.

POWER PAPER CUTTERS
See Cutting and Trimming Machinery.

POWER PROOF PRESSES
See Proof and Test Presses.

PRESS BLANKETS
See Blankets.

PRESS BOARD (PAPER)
See Paper and Board.

PRESS BOARDS (WOODEN)
See Bookbinding Machinery.

PRESS BRAKES
See Brakes.

PRESS CONTROL SYSTEMS, DRIVES, ETC.
See Dynamos, etc.

PRESSED STEEL GALLEYS
See Galleys.

PRESS FEED GUIDES
See Gauge Pins.

PRESS FEEDERS
See Feeders, Folders, etc.

PRESS FOUNDATIONS
See Vibration Absorbing, etc.

PRESS GUARDS
See Guards.

PRESS HEATERS
See Electric and Gas Heaters.

PRESS INKERS
See Die Stamping Presses.

PRESS NUMBERING MACHINES
See also Counters.

PRESSROOM CABINETS
See Cabinets.

PRESS SEATS (CYLINDER)
See Chairs, Press Seats and Stools.

PRESS SHEET HEATERS
See Electric and Gas Heaters.

PRESSURE BLOWERS (FOR AGITATING ELECTROTYPING AND ETCHING SOLUTIONS)
See Photoengravers' Equipment.

PRESS TAPE
See Printing Presses.

PRESS WASHUP MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

PRESSES
See Printing Presses.

PRESSES, DIRECT PRESSURE
See Matrix Presses.

PRINTERS' PLATFORMS AND TRUCKS
See Trucks.

PRINTERS' ROLLERS
See Rollers.

PRINTERS' SAWS
See Sawing, Trimming.

PRINTING, CUTTING AND SCORING MACHINES
See Printing Presses.

PRINTING INK
See Ink.

PRINTING LAMPS
See Lithographic and Offset Plate Making Equipment and Supplies.

PRINTING MACHINERY DEALERS

***ABRAMS, M. L., 1639 Superior Ave., Cleveland, Ohio** ---- 77

*Ace Printers Machinery Co., 154 W. 26th St., New York City.
*Adams, John J., 35 S. Gay St., Baltimore, Md.
*Allied Printing & Binding Machinery Co., 1975 E. 65th St., Cleveland, O.
*American Printing Machinery Co., Penn Ave., at Water St., Pittsburgh, Pa.
*Artman & Myers, 31 S. 9th St., St. Louis, Mo.
*Automatic Printing Equipment Co., 407 S. 4th St., Minneapolis, Minn.
*Baker, A. F., Machine Co., 142 Oliver St., Boston, Mass.
*Barager, M. E., 6523 20th Ave. N E., Seattle, Wash.
*Beall, James I., 115 S. Union St., Akron, O.
*Beckett, Geo. P., 1554 N. Clark St., Chicago, Ill.
*Benson, W. B., & Co., 1018 Douglas St., Omaha, Neb.
*Blank & Schneider Co., 143 E. 3rd St., Cincinnati, O.
*Brintnell, Harry W., Co., 51 Clementina St., San Francisco, Calif.
Buerger Bros. Supply Co., 1738 Champa St., Denver, Colo.
*Brooklyn Printers Exchange, 35 York St., Brooklyn, N. Y.
Bush-Krebs Co., 408 W. Main St., Louisville, Ky.
*California Printers Supply Co., 407 E. Pico St., San Francisco, Calif.
*Carter, Jos. F. 5241 Bonita Ave., Dallas, Tex.
*Central States Printers Exchange, 300 1st Ave., Peoria, Ill.
*Chapman Sales & Mfg. Co., 112 N. 3rd St., St. Louis, Mo.
*Charnock Co., 160 Elliott St., Buffalo, N. Y.
*Chicago Paper Box Machine Works, Inc., 2059 Emerson St., Chicago, Ill.
*Chicago Printers Machinery Works, 609 W. Lake St., Chicago, Ill.
*Collin, Herbert L., 52 Beekman St., New York City.
*Conner, Chas. S., 2225 Lake Ave., Baltimore, Md.
*Continental Mfg. & Sales Co., 220 W. Kinzie St., Chicago, Ill.
*Coombs, Ralph G., Co., 14 Lisbon St., Lewiston, Me.
*Cornell & Everett, 714 Baltimore Ave., Kansas City, Mo.
*Craftsman Machinery Co., 287 Atlantic Ave., Boston, Mass.
*Cunningham, M. A., 297 Atlantic Ave., Boston, Mass.
*Davis & Kravet, 189 High St., Boston, Mass.
*Des Moines Printers Exchange, Inc., 214 2nd St., Des Moines, Ia.
*Detroit Numbering Machine Co., 535 Bates St., Detroit, Mich.
*Dietrich Products Co., 2734 Sidney St., St. Louis, Mo.
*Diller Machinery Co., 147 W. 26th St., New York City.
*Dodson Printers Supply Co., 231 Pryor St., S. W., Atlanta, Ga.
*Donohue, Thos. F., 200 Davis St., San Francisco, Calif.
*Duro-Flex Products, Inc., 72 Commercial St., Worcester, Mass.
Dunklin, Wm., Co., Inc., 112 Charlton St., New York City.
*Eastern Machine Co., 330 Atlantic Ave., Boston, Mass.
*Economy Printers Supply Co., 151 N. 6th St., Philadelphia, Pa.
*Farnsworth, John, Bourse Bldg., Philadelphia, Pa.
*Frank, F., 2953 W. Lake St., Chicago, Ill.
*Frank's Printers Supply House, 3354 W. Harrison St., Chicago, Ill.
*Franklin Printers Supply Co., 608 Cherry St., Philadelphia, Pa.
*Fuller, E. C., Co., 28 Reade St., New York City.
Garrett Co., J. & F. B., 239 Lafayette St., Syracuse, N. Y.
*Gegenheimer, Wm., Inc., 78 Roebling St., Brooklyn, N. Y.
*Gibbs-Brower, Inc., 401 Broadway, New York City.
*Gimmel Bros., Inc., 19 Second St., San Francisco, Calif.
*Globe Type Foundry, Inc., 320 S. Jefferson St., Chicago, Ill.
*Goldman, M. D., Bulletin Bldg., Philadelphia, Pa.
*Goodman, Jos. H., 470 Atlantic Ave., Boston, Mass.
*Gorton, Clifford W., 48 Smith St., West Haven, Conn.
*Graphic Arts Machine Agency, 12 Wooster St., New York City.
*Graphic Arts Service Co., 530 Atlantic Ave., Boston, Mass.
*Graphic Machinery Exchange, Inc., 114 W. 26th St., New York City.
*Griffiths, John Co., Inc., 145 Nassau St., New York City.
*Hagman, Carl A., 352 Pearl St., New York City.
*Hammond, Earnest J., 129 Dyer St., Providence, R. I.
*Hanika, C. W., 420 S. Penn St., Indianapolis, Ind.
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Heavin & Granum Co., Inc., Great Southern Bldg., Houston, Texas.
*Heffelman, Geo. O., 604 E. 12th St., Los Angeles, Calif.
*Heidelberg Printing Machinery Corp., 228 E. 45th St., New York City.
*Heinsohn, A. E., 1441-47 Blake St., Denver, Colo.
*Hennegan, J. D. Co., Inc., 549 W. Fulton St., Chicoga, Ill.

***HENSCHEL, C. B., MFG. Co., Mineral and Hanover Sts., Milwaukee, Wisc.** ---- 78

*Hess, A., Co., 225 W. 34th St., New York City.
*Hill, Harry S., Co., 1500 N.W. 20th Ave., Portland, Ore.
*Hofdhauer, George, & Co., 501 S. Dearborn St., Chicago, Ill.
*Hoffman Machinery & Eng. Co., 114 E. 13th St., New York City.
*Holt, James H., Inc., 261 Court Ave., Memphis, Tenn.

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*Huebner Laboratories, 202 E. 44th St., New York City
*Hultman, G. T., & Co., 715 S. Dearborn St., Chicago, Ill.
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*Indiana Printers Supply Co., 109 Kentucky Ave., Indianapolis, Ind.
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*Johnson, C. I., Mfg. Co., 513 E. 3rd St., St. Paul, Minn.
*Kennedy-Hearing Corp., 1132 Race St., Philadelphia, Pa.
*King, W. B., 624 Western Ave., Seattle, Wash.
*Konecky Bros., 21 E. 4th St., New York City.
*Lance Co., The, 1300 Young St., Dallas, Texas.
*Larsen, A. L., Machine Co., 152 Purchase St., Boston, Mass.
*Lavery, Chas., 69 E. Long St., Columbus, O.
*Lawson, E. P., & Co., 424 W. 33rd St., New York City.
*Lindner, E. G., The, 419 Wall St., Los Angeles, Calif.
*Linograph Corp., 107 Scott St., Davenport, Iowa.
*Ludwig, Otto, Printers Supply Inc., 106 Ann St., Hartford, Conn.
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*Marsh, Hamilton R., Co., 11th and Race Sts., Philadelphia, Pa.
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*Martin, James, Machine Shop, 90 Clifton St., Rochester, N. Y.
*Mason-Moore-Tracey, Inc., 30 E. 4th St., New York City.
*May, Fred, Sons, 259 Pearl St., New York City.
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*Mid-West Rotaprint Corp., 505 Prospect-Fourth Bldg., Cleveland, O.
*Miles Machinery Co., 482 W. Broadway, New York City
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*Muller, Chas. A., Co., Inc., 153 Lafayette St., New York City.
*Myers, E. G., 924 Santa Fe Bldg., Dallas, Texas.
*McKinley Machinery Co., Inc., 1623 John St., Cincinnati, O.
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*Nick's Macnine Shop, 921 Larimer St., Denver, Colo.
*Niner, J. C., Co., 26 S. Gay St., Baltimore, Md.
*Nissenbaum, Irving, Inc., 114 W. 27th St., New York City.
*Nolan, Edw. J., Engineering Co., Rome, N. Y.
*Northern Machine Works, Marshall and Jefferson Sts., Philadelphia, Pa.
*Nossel, Frank, 38 Park Row, New York City.
*Numbering Machine Co., 4921 Palmer Ave., Baltimore, Md.
*Omaha Printers Supply Co., 1122 Harney St., Omaha, Neb.
Packard Printing Machinery Co., 78 Geneva St., Lyons, N. Y.
*Pacific Printers Supply Co., Inc., 1220 S. Maple Ave., Los Angeles, Calif.
*Pacific States Machinery & Supply Co., 82 Natoma St., San Francisco, Calif.
Palmer, E. C., & Co., 515 Lafayette St., New York City.
*Pape, Thos. A., 21 Division St., Newark, N. J.
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*Reiner, Robert, Inc., 556 Gregory Ave., Weehawken, N. J.
*Reiner's Roroprint, Inc., 192 Lexington Ave., New York City.
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*Vorwerk, R. W., 632 Sherman St., Chicago, Ill.
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*Wanner Co., The, 720 S. Sherman St., Chicago, Ill.
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*Wolfe, Wm. H., 380 Canal St., New York City.
*Wood & Nathan Co., Inc., 112 Charlton St., New York City.
*Wright, Wm. J., Jr., 161 W. Harrison St., Chicago, Ill.
*Zanetti, J., Machine Works, 1701 Kirkwood Ave., San Francisco, Calif.
*Zifchock, Jos. J., Herald Square, Pascoag, R. I.
*Zimmer Printers Supply Co., 72 Beekman St., New York City.

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d. Bottle Cap
e. Card
f. Carton
g. Color
h. Check
i. Cylinder
j. Envelope
k. Envelope Blank
l. Fanfold Form
m. File Folder
n. File Form
o. Flat Bed
p. Form Letter
q. Hand
r. Index Card
s. Job
t. Label
u. Lithographic
v. Magazine
w. Mileage
x. Newspaper
y. Offset
z. Planographic
aa. Platen
bb. Register Form
cc. Roll-Feed
dd. Roll Form
ee. Rotary
ff. Rotogravure
gg. Sales Book
hh. Sheet Feed
ii. Tag
jj. Tape
kk. Ticket
ll. Tin
mm. Vertical
nn. Web
oo. Wrapper

*American Machine & Mfg. Co., 425 Folsom St., San Francisco, Calif.—*gg.*
*American Type Founders Sales Corp., 300 Cumminpaw Ave., Jersey City, N. J.— *a-i-o-s-aa-hh.*
*Babcock Printing Press Mfg. Co., 38 Piquot Ave., New London, Conn.— *a-i-e-g-s-ee-hh.*
*Barnard, Paul J., 1600 Junction Ave., Racine, Wisc.— *e-s*

***BRANTJEN & KLUGE, 643 Gaultier St., St. Paul Minn.**— *a-e-s-aa* **46**

*Challenge Machinery Co., The, Grand Haven, Mich. — *a-i-o-s-aa-hh.*
*Chambon Corp., 911 New York Ave., Union City, N. J. — *ee.*

***CHANDLER & PRICE CO., THE, 6000 Carnegie Ave., Cleveland, O.**— *a-q-s-aa* **24**

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc.**— *f-v-ee-nn* **22**

*Cochrane-Bly Co., 15 St. James St., Rochester, N. Y.— *y.*

***COTTRELL, C. B., & SONS CO., Westerly, R. I.**— *b-f-v-cc-ee-hh-nn* **64-65**

*Dilkes, C. E., & Co., 6 Dawson St., Newark, N. J.— *e-p.*
*Duplex Printing Press Co., The, Battle Creek, Mich.— *z-cc-ee-nn.*
*Elliott Addressing Machine Co., Cambridge, Mass.— *c.*
*Fremont Equipment Co., 4522 38th St., Long Island City, N. Y.— *i.*
*General Printing Ink Corp., 100 Sixth Ave., New York City, Rutherford Machinery Co. Div.— *y-ee-ll.*

***GOSS PRINTING PRESS CO., THE, 1535 S. Paulina St., Chicago, Ill.**— *g-o-v-x-cc-ee-nn* **2-3**

*Gowdy Mfg. Co., 45 N. Division St., Chicago, Ill.— *a-j.*

***HARRIS-SEYBOLD-POTTER CO., 4510 E. 71st St., Cleveland, O.**— *a-j-o-t-u-y-ee-ff-hh-ll* **Insert, 50-51, 110-111**

*Heidelberg Printing Machinery Corp., 228 E. 45th St., New York City — *a-e-s-aa.*
Heinrich, H. H., Inc., 200 Varick St., New York City — *b-g-cc-ff-nn.*

***HENSCHEL, C. B., MFG. CO., 229 W. Mineral St., Milwaukee, Wisc.**— *cc-ee* **78**

***HOE, R., & CO., 138th St. and E. River, New York City** — *g-t-u-v-x-y-cc-ee-ff-hh-nn* **56-57**

*International Intaglio Corp., 45 W. 45th St., New York City — *ff.*
*Kelsey Press Co., The, 62 Colony St., Meridan, Conn.— *q.*
*Meisel Press Mfg. Co., 944 Dorchester Ave., Boston, Mass. — *b-g-r-m-v-ee-kk-oo.*
*Miehle Printing Press & Mfg. Co., 14th St. and S. Damen Ave., Chicago, Ill.— *a-g-i-y-mm.*

***MILLER PRINTING MACHINERY CO., 1117 Reedsdale Ave., Pittsburgh, Pa.**— *j* ... **Insert, 76-77**

*New Era Mfg. Co., 375 11th Ave., Patterson, N. J.— *o-t-u-y-hh-ii-ee-nn.*
*Pleger, John J., Co., 609 W. Lake St., Chicago, Ill.— *kk.*
*Post Mfg. Works, 671 Diversey St., Chicago, Ill.— *j.*
*Potdevin Machine Co., Inc., 1221 38th St., Brooklyn, N. Y.— *b.*

***PRINTING MACHINERY CO., THE, 436 Commercial Sq., Cincinnati, O.**— *g-i-t-ee* **13**

*Rotogravure Engineering Corp., 1 Park Pl., New York City — *ff.*

***SCOTT, WALTER, & CO., Plainfield, N. J.**— *x-y-ee-ff-nn* **62**

Sevigne, F. J., Machine Co., 41 Crown St., Nashua, N. H. — *f.*
*Schmutz Mfg. Co., 1600 W. Main St., Louisville, Ky.— *b-cc-ee-nn.*
*Sigwalt Mfg. Co., 2011 N. Lawndale Ave., Chicago, Ill. — *q-aa.*
Simplex Gold Stamping Press Co., Inc., 425 4th Ave., New York City — *s.*
*Standard Process Co., 734 Matner St., Chicago, Ill.— *ff.*
Swift, George W., Inc., Bordentown, N. J.— *d-l-ii-ll.*
*Thompson National Press Co., Dean Ave., Franklin, Mass.— *o-s-hh.*

***U.P.M.-KIDDER PRESS CO., 121 Broadway, Dover, N. H.**— *a-t-v-x-cc-ee-hh-jj-kk-nn-oo* **118**

Vierangel Machine Co., The M., 360 Troutman St., Brooklyn, N. Y.— *j.*
*Wagner, Chas., Litho Machinery Co., Inc., 51-55 Park Ave., Hoboken, N. J.— *u-ll.*
*Webendorfer-Wills Co., Inc., 2 South St., Mt. Vernon, N. Y.— *i-y-hh-nn.*
Wood-Nathan, & Virkus Co., Inc., 112 Charlton St., New York City — *a-s-aa.*

***WOOD NEWSPAPER MACHINERY CORP., 501 Fifth Ave., New York City** — *g-x-ee-nn* **12**

*Willsea Works, The, 1042 University Ave., Rochester, N. Y.— *g-cc-ee-nn.*

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PRISMS
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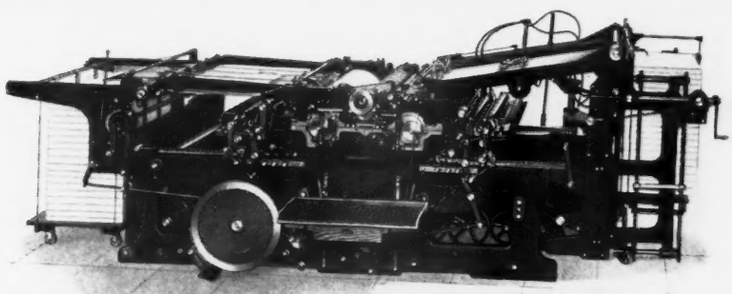

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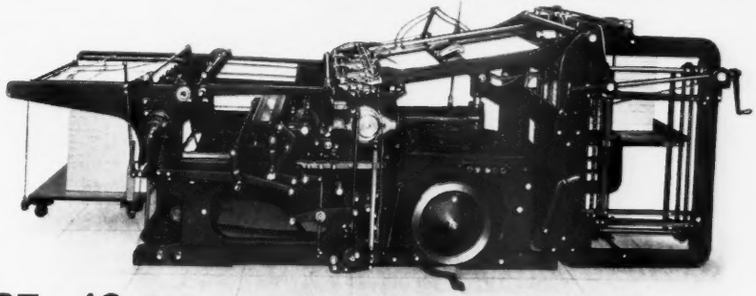

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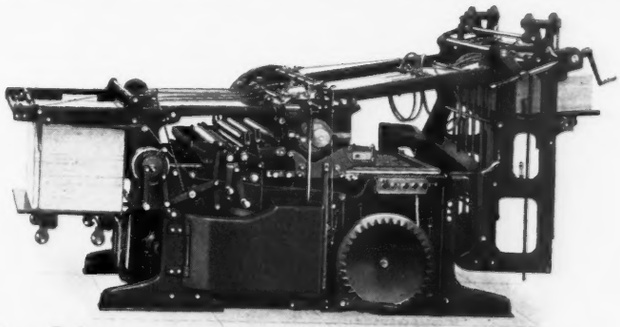

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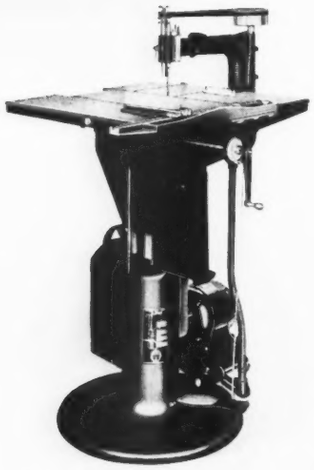

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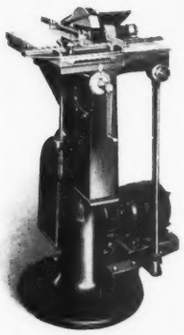

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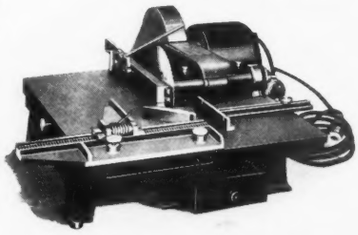

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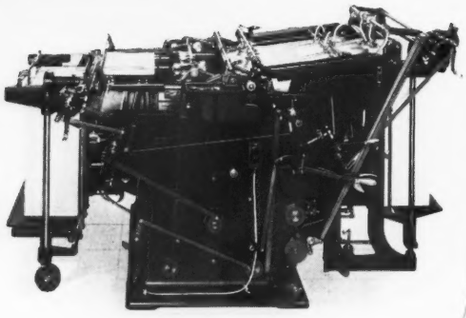

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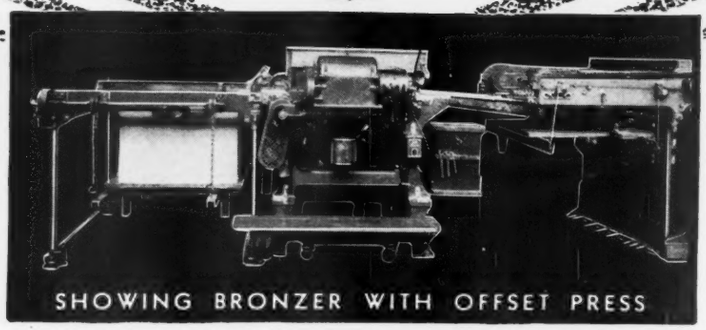


SHOWING BRONZER WITH OFFSET PRESS

MILWAUKEE BRONZER

Outstanding Features: Heavy construction, portable, guaranteed to bronze and clean sheets in one operation — no loose bronze flying around. We erect and demonstrate machine on your floor. Made in all sizes. Write for prices and further details.

229 W. MINERAL ST. **C. B. HENSCHEL MFG. CO.** MILWAUKEE, WIS.

PROOF AND TEST PRESS
a. Automatic
b. Composing Room Cylinders
c. Curved Plate
d. Flat Bed
e. Hand
f. Hand Roller
g. Letterpress
h. Lithographic and Offset
i. Multicolor
j. Power
k. Rotagravure
l. Web

*Challenge Machinery Co., The, Grand Haven, Mich.— *b-f-g.*

***COTTRELL, C. B., & SONS CO., P. O. Drawer 515, Westerly, R. I.**— *d-e-f-g* ---- **64-65**

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc.**— *c-d-i-j* ---- **22**

*Fremont Equipment Co., 4522 38th St., Long Island City, N. Y.— *d-e.*

***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill.**— *d-e-f-g-j* ---- **105**

*General Printing Ink Corp., 100 Sixth Ave., New York City; Rutherford Machinery Co. Div.— *h.*

***HOE, R., & CO., 138th St. and E. River, New York City** — *g-j* ---- **56-57**

*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.— *e-f-g.*
*Ostrander-Seymour Co., The, 1900 S. 54th St., Cicero, Chicago, Ill.— *d-e-g.*

***VANDERCOOK & SONS, INC., 900 N. Kilpatrick Ave., Chicago, Ill.**— *a-b-d-e-g-i-j* ---- **79**

*Weeel, F., Mfg. Co., Scranton, Pa.— *d-e-g-j.*

PROOFREADERS' DESKS
See Tables.

PUBLICATION CHASES
See Chases, etc.

PULLEYS (SPEED REGULATING)
Horton Mfg Co., 3016 University Ave. S. E., Minneapolis, Minn.
*Thomson-National Press Co., Dean Ave., Franklin, Mass.

PULLMAN TICKET FOLDING MACHINES
See Feeders, Folders, etc.

PUMPS (AIR AND INK)
Leiman Bros., Inc., 156 Christie St., Newark, N. J.

PUNCH BLOCKS OR HEADS
See Perforating, Punching, etc.

PUNCHES AND PUNCHING MACHINES
See Perforating, Punching, Machinery.

PURE GOLD LEAF
See Foil.

PUSH BUTTON CONTROL AND SIGNAL STATIONS FOR ELECTRICAL DRIVE EQUIPMENT
See Dynamos, etc.

PYROMETERS (METAL TEMPERATURE)
See Metal Feeders, etc. See also Type Metal Thermometers, etc.

Q

QUADRUPLE AND QUARTO CHASES
See Chases, etc.

QUADS
See Leads and Rule.

QUARTER POINT COMPOSING STICKS
See Composing, etc., Sticks.

QUOIN CHASES
See Chases.

QUOINLESS CHASES
See Chases.

QUOIN LOCKS
See Chases.

QUOINS AND KEYS
See Chases.

R

RABBETED BASES
See Plate Mounting Equipment.

RACKS
See Cabinets.

RADIAL ARM ROUTERS
See Saw Trimming, etc., Machinery.

RAG CANS
See Cans.

RAILWAY TICKET PRINTING AND FINISHING MACHINES
See Printing Presses.

RAISED LETTER PRINTING MACHINES AND POWDERS

***EMBOSSOGRAPH PROCESS CO., 251 William St., New York City** ---- **109**

*Nygren-Dahly Co., 218 N. Jefferson St., Chicago, Ill.
*Philwood Co., 3932 Seneca St., Los Angeles, Calif
*Wood, Nathan, & Virkus Co., Inc., 112 Charlton St., New York City.

RATCHETS
See Chases.

RECTANGULAR SCREEN HOLDERS
See Cameras.

REDUCERS (INK)
See Ink.

REDUCING GLASSES
See Magnifying and Reducing Glasses.

REFORMERS, CURVED PLATE
See Stereotypers' Machinery.

REGISTER BLOCKS, CATCHES AND HOOKS
See Plate Mounting Equipment.

REGISTER NUTS
See Chases, etc.

REGISTER PUNCHES (PLAIN AND MICROSCOPE)
See Plate Mounting Equipment.

REGISTER QUOINS
See Chases, etc.

REGISTER TABLES
See Line-Up and Register Machines Systems and Tables.

REGLET
See Furniture and Reglet.

REVOLVING MATERIAL RACKS
See Cabinets.

REWINDING MACHINERY
See Slitting and Rewinding Machinery.

REWIND ROTARY PRESSES
See Printing Presses.

RIBBON GOLD
See Foil.

RIGID BED PROOF PRESSES
See Proof and Test Presses.

ROLL CLOTH CUTTERS AND SLITTERS
See Slitting and Rewinding Machinery.

ROLL FEED FLAT BED PRESSES
See Printing Presses.

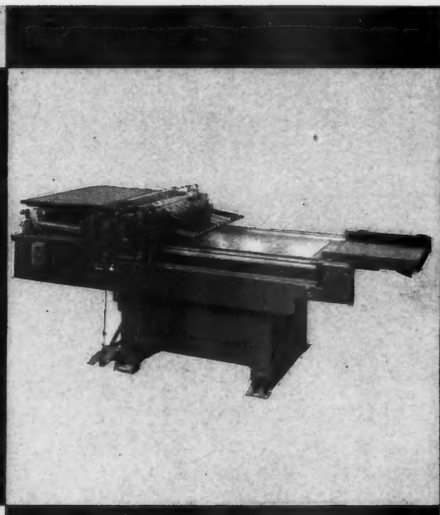
ROLL FEED ROTARY PRESSES
See Printing Presses.

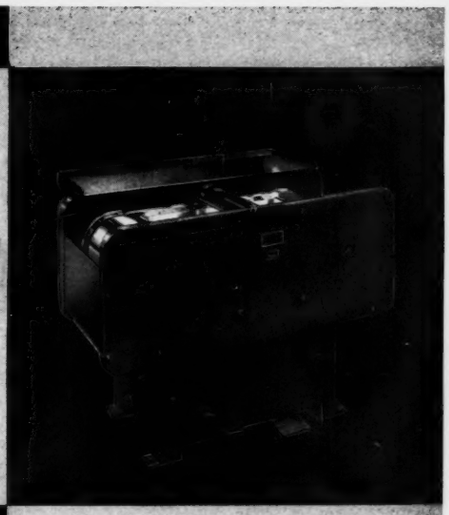
ROLL FEED STAMPING PRESSES
See Die Stamping, etc., Presses.

ROLL FEED UNITS
See Feeders, Folders, etc.

ROLL FORM WRAPPER PRINTING AND FINISHING MACHINES
See Printing Presses.

ROLL LABEL PRINTING AND FINISHING MACHINES
See Printing Presses.





VANDERCOOK
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Typographical perfection is apparent only on good proofs. That is the reason why so many true craftsmen indicate a decided preference for Vandercook Proof Presses. Simply constructed and easily operated they give good proofs with a minimum of effort. There is a model and size for every purpose.

VANDERCOOK & SONS, INC.
900 North Kilpatrick Ave. Chicago, Ill.

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No. 3—Reasonably priced, No. 3 Vandercook offers exceptional printing qualities, hairline register, easy operation, and thorough ink distribution. It is ideal for quality proofs and premakeready test proving.

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No. 325—Hand or power proof press large enough to take a full newspaper page. With complete equipment of automatic delivery and fountain, it will produce 1000 perfect proofs per hour. A necessity to the metropolitan newspaper, typographer or plant producing large forms.

No. 23—This high-speed electric proof press produces 40 good proofs per minute, taking a sheet up to 15″ x 30″. It is especially recommended for quick proving of newspaper ads, up to six columns wide, and catalog, magazine or book pages.

There is a Vandercook Proof Press for every proving need. If you have a special proving problem demanding proofs of exceptional quality, of an unusual size, or at high speed, there is a Vandercook model to meet your requirements. • Complete details will be sent at your request, without any obligation to you. Just say you are interested in modern proving methods. Write Vandercook & Sons, Inc., 908 North Kilpatrick, Chicago.

25 Sizes and Models Priced from $45

COST CUTTER SAWS CUT COSTS

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RAPID ACCURATE SAFE DEPENDABLE

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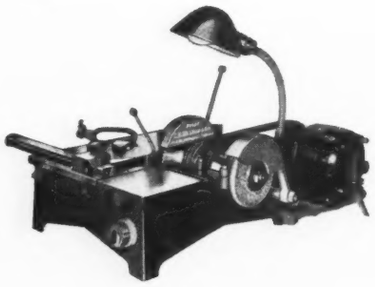
MODEL "B" COST CUTTER SAW

COST CUTTER SAWS do more than other saws, at less expense, because they embody all worthwhile features of other machines as well as numerous labor-saving improvements of their own. Among these labor-savers are:

Patented, accurate, mechanical method of setting and grinding trimmer knives. Removable, adjustable saw heads. Ball-bearing saw arbors. Roomy, self-aligning, sliding tables. Quicker, firmer work holder. Quick set, accurate gauges. Efficient mitering attachments. Flexible lighting fixture. Powerful V-belt drive. Adjustable motors. Cup oiling.

MODEL "A" COST CUTTER SAW



COST CUTTER SAWS are used and endorsed by leading newspapers, trade composition plants, printers and typographers, throughout the world. They have been adapted because of unusual speed, accuracy, efficiency, and freedom from breakdown and repairs. They are a life-time investment and a daily source of increased profits.

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727 South Dearborn Street, Chicago

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YOU Pay Plenty!

because of an OBSOLETE Practice

You pay through double proof-reading, "down-time," delays at the correction "bank," make-up, stereotype room and press room. You pay through hours lost in running mats out of a magazine to clean them and in a futile effort to clean magazine channels with a brush. You, also, pay through lack of visibility of reference marks on the mats, and through trying to clean with rubber erasers, wire brushes, etc.

Make Us Prove It

The "KLEAN-O-MAT" Process will write off its cost in *less than a year* in a small plant — much sooner in larger plants. We will gladly submit evidence if you will tell us the number of line-casting machines you operate, number magazines, wage scale and average number operators employed.

According to proofs from large and small plants (all over the country) nearly 90 per cent of the total errors in composition are mechanical — *not* educational. This large percentage which is made up of missing letters, double letters and transpositions *can* be avoided by cleaning your mats and magazines the "KLEAN-O-MAT" way. The job is done *in 30 minutes* — without running mats out of the magazine, and you obtain maximum visibility at the same time.

"KLEAN-O-MAT" Compound is the best and most economical cleaner on the market. It is safe and will *not* harm false-walls. "KLEAN-O-MAT" imparts a velvety finish to mats, magazine channels and cams and provides *natural*, maximum visibility. Try it without risk. Ask us to explain how.

Cleans Mats and Magazine in 30 Minutes

Simplicity itself. Just lift a magazine from the machine; place in "KLEAN-O-MAT" tank; pour in compound — and water — and let run for 15 minutes; then rinse and place in drying cabinet, equipped with motor-driven fan which operates against electric heating elements.

Read What Users Say

We will be pleased to send you a list of users who will tell you what "KLEAN-O-MAT" Process has done for them. Following are excerpts from expressions written by a few:

"MIRROR," Altoona, Pa.—". . . want to tell you I am well pleased with results obtained with your machine."— *Harry E. Slep, Foreman.*

"SPECTATOR," Hamilton, Ont. (Canada)—". . . more than pleased . . . reduced errors more than 50 per cent. Machinist very enthusiastic . . . operators amazed and pleased with elimination of errors and transpositions and relief from eye-strain."— *A. J. Waite, Supt.*

"POST-GAZETTE," Pittsburgh, Pa.—". . . the cleaner is wonderful."— *James Stirling, Foreman.*

"WASHINGTON DAILY NEWS," Washington, D. C.—". . . results highly satisfactory . . . machinist enthusiastic . . . found no injury to mats, magazines or cams . . . false-walls not touched . . . consider good investment."— *Roy B. Hood, Supt.*

"JOURNAL," Jamestown, N. Y.—". . . performs well work for which intended . . . consider useful and valuable."— *H. M. Hall, Pubr.*

"NEWS-JOURNAL," Wilmington, Del.—". . . does what is claimed . . . simple and easy to operate . . . consider old way as obsolete as beating in a wet mat . . . machinist would not want to be without it."— *R. M. Megginson, Supt.*

LARGEST USER — Canadian Government Plant.

Klean-O-Mat Div., The Fred Goat Co., Inc.

ESTABLISHED 1893

Klean-o-Mat TRADE MARK PROCESS

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LINDBLADH

PAPER RULING MACHINES

The Lindbladh Corporation of Boston proclaims a notable achievement in presenting:

THE LINDBLADH DUPLEX "L" PAPER RULING MACHINE

Operating in

NEVER-CHANGING SYNCHRONISM

The introduction by Lindbladh of this commanding principle — reorganizes the whole domain of Pen-Ruling. A score of ruling advantages are now made available all of which are incorporated in the:

DUPLEX "L" MACHINE. Operating in predetermined time-relation. Ruling all striker patterns in two directions, simultaneously. Not only striker-ruling on both machines but faint-lining is now done on first machine and down-lining on second machine.

SINGLE-STYLE MACHINE. Stream-line design. Equipped with one cloth only. A multiple-striker machine of the simplest and most effective design in paper-ruling history.

LINDBLADH PILE-FEEDER. Suction-blower type. A sheet-feeding device for universally handling all classes of paper-stock in a manner, unconditionally satisfactory.

Complete literature upon request.

NOTICE

The Lindbladh Corporation's patents numbers 1,813,910 and 1,609,618 covering this Duplex machine have been held valid in a recent Decision of the United States Circuit Court of Appeals for the Second Circuit, affirming a Decision of the United States District Court for the Eastern District of New York, in the case of **The Lindbladh Corporation v. The C. E. Sheppard Company.** The Lindbladh Corporation's exclusive rights to manufacture and sell this type of machine have thus been confirmed by the United States courts.

THE LINDBLADH CORPORATION **40 Court Street, Boston, Mass.**

Makers of Paper-Ruling Machines for Over 20 Years

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See Foil.

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For Roll Leaf Feeders for Stamping Presses, see Die Stamping, etc., Presses.
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ROLL LEAF AND ROLLER PAPER SLITTERS
See Slitting and Rewinding Machinery.

ROLL PAPER FEEDERS
See Feeders, Folders, etc.

ROLL PAPER TRUCKS
See Trucks.

ROLL PRINTING PRESSES
See Printing Presses.

ROLL TICKET PRINTING AND FINISHING MACHINES
See Printing Presses.

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*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J.

ROLLER CABINETS
See Cabinets.

ROLLER CASTING MACHINES
See Rollers.

ROLLER CLEANING MACHINES
See Lithographic and Offset Plate Making, Equipment and Supplies.

ROLLER CONTROLS, DUCTOR
See Ductor Roller Controls.

ROLLER COOLING FANS

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.... 93**

ROLLER DAMPENERS
See Lithographic and Offset Plate Making Equipment and Supplies.

ROLLER EMBOSSING MACHINES
See Pebbling, etc., Machines.

ROLLER FANS

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.... 93**

ROLLER FRAMES, SUPPORTERS AND TRUCKS
See Roller Bearers, etc.

ROLLER SPRAY SOLUTION
See Ink.

ROLLER (STOCKS)
See Printing Presses.

ROLLER TRUCKS (EXTENSION)
See Roller Bearers.

ROLLER VIBRATORS
See Ink Fountains, etc.

ROLLER WASHING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

ROLLER WASHING RACKS
*Acme Printing Appliance Co., The, 333 S. Clinton St., Cnicago, Ill.
Hart, R. E., Mfg. Co., 14th St., Merrill Park, Battle Creek, Mich.

ROLLERS
a. Composition
b. Covered
c. Lithographic and Offset
d. Patent
e. Rubber

***BINGHAM BROS. CO., 406 Pearl St., New York City** — *a-b-c-d-e* ---- **83**

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Bingham & Runge Co., The, 1374 E. 12th St., Cleveland, Ohio — *a.*
Chicago Roller Co., 554 W. Harrison St., Cnicago, Ill.— *a-c-e.*
Dayton Rubber Mfg. Co., The, Dayton, O.— *e.*
General Tire & Rubber Co., Akron, O.— *e.*
Globe Printers Roller Co., Inc., 154 Purchase St., Boston, Mass.— *a.e.*
Godfrey Roller Co., 211-15 Camac St., Philadelphia, Pa. — *a-e.*

GOODRICH, B. F., RUBBER CO., Akron, O. — *e* ---- **20**

GOODYEAR TIRE & RUBBER CO., THE, INC., Akron, O. — *c-e* ---- **32**

HART, WILLIAM C., CO., INC., 137 Green St., New York City — *a-b-d* ---- **106**

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Manhattan Rubber Mfg. Div., The, Raybestos-Manhattan Inc., 61 Willett St., Passaic, N. J.— *e.*
*Milwaukee Printers Roller Co., 422 S. Fourth St., Milwaukee Wisc.,— *a.*

NELSON ROLLER CO., Tribune Tower, Chicago, Ill. — *e* ---- **8**

Niles & Nelson, Inc., Chicago, Ill.; and New York City — *e.*
Osgood, J. H., Co., 33 Purchase St., Boston, Mass.— *a-e.*
Rapid Roller Co., 2558 S. Federal St., Chicago, Ill.— *a-b-c-d-e.*
Twin City Printers Roller Co., 505 S. 3rd St., Minneapolis, Minn.— *a.*
Vogt Roller Co., Inc., 222 S. 12th St., Louisville, Ky. — *a-e.*

VULCAN PROOFING CO., 58th St. and 1st Ave., Brooklyn, N. Y. — *c-e* ---- **91**

*Western Roller & Machine Co., 615 19th St., Denver, Colo.— *a-e.*
Wild & Stevens, Inc., 5 Purchase St., Boston, Mass.— *a-c-e.*
Winn & Goodman, 350 Sansome St., San Francisco, Calif. — *a.*
Yeager Process Co., Marion, O.— *b.*

ROTOGRAVURE PRESSES
See Printing Presses.

ROTOGRAVURE PRINTING EQUIPMENT ACCESSORIES AND SUPPLIES, COPPER CYLINDER GRINDING MACHINES, DEVELOPING TROUGHS, ETCHING TANKS, ETC.
See also Cameras, Ink, and Printing Presses.

***HARRIS-SEYBOLD-POTTER CO., 4510 E. 71st St., Cleveland, O.---- 50-51, 110-111**

*International Intaglio Corp., 45 W. 45th St., New York City.
Johnson-King Co., 515 S. Wells St., Chicago, Ill.

***MERGENTHALER LINOTYPE CO., 29 Ryerson St., Brooklyn, N. Y.---- 43**

*Rotogravure Engineering Corp., 1 Park Pl., New York City.

ROTARY BOARD CUTTERS
See Carton and Paper Box Makers' Machinery.

ROTARY BOARD FEEDERS
See Carton and Paper Box Makers' Machinery.

ROTARY CIRCULAR SCREEN HOLDERS
See Cameras.

ROTARY CYLINDERS, PLATE BASE AND HOOKS
See Plate Mounting Equipment.

ROTARY METAL DECORATING PRESSES
See Printing Presses.

ROTARY MITERING MACHINES
See Lead, Rule and Slug Cutting and Mitering Machines.

ROTARY PERFORATING MACHINES
See Perforating, Punching, etc., Machines.

ROTARY PRESS HOOKS
See Plate Mounting Equipment.

ROTARY PRESSES
See Printing Presses.

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Good rollers mean just one thing—good ink distribution. Without a satisfactory distribution of ink the effort, expense and equipment necessary for good presswork are wasted. When so much depends on the final operation, why take chances with inferior or worn out rollers? Good rollers are not made in a day. They require a certain amount of time for their manufacture, and this should be allowed for in ordering.

We manufacture the following rollers:

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The Star line of adhesives includes rosin cement, splicing, make-ready and mailing pastes, flexible glues, mounting, labeling, wrapping and case sealing glues. Samples will be sent on request without obligation.

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Rollers of Rubber, Non-Meltable and Seasonable Composition,
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ROTARY SLITTING AND REWINDING MACHINES
See Cutting and Trimming Machines.
ROTARY STEEL PLATE PRINTING PRESSES
See Die Stamping, etc., Presses.
ROTARY STRIP END TRIMMER
See Bookbinding Machinery.
ROTARY TYPE HIGH PLANERS
See Sawing, Trimming Machinery.
ROUGHING MACHINES (PAPER)
See Pebbling, Roughing, etc., Machines.
ROUGHING AND SHAVING MACHINES (COMBINED)
See Stereotypers' Machinery.
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Detroit Edge Tool Co., 433 Mt. Elliott Ave., Detroit, Mich.
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*Rosback, F. P. Co., Benton Harbor, Mich.
*Southworth Machine Co., 30 Warren Ave., Portland, Me.
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See Bookbinding Machinery.
ROUND HOLE CUTTING AND PERFORATING MACHINES
See Perforating Punching, etc., Machine
ROUNDING AND BACKING MACHINES
See Bookbinding Machinery.
ROUTER BITS
See Sawing, Trimming, etc., Machinery.
ROUTING MACHINES
See Sawing, Trimming, etc., Machinery.
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See Blankets.
RUBBER CUTTERS
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See Rotogravure Printing Equipment.
RUBBER GLOVES
See Rollers.
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DUST-LESS EQUIPMENT CO., 1406 Monroe St., N. E., Washington, D. C. 107
SEBASTIAN LATHE CO., THE, 3rd and Philadelphia Sts., Covington, Ky. 100
South Bend Lathe Co., South Bend, Ind.
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See Lithographic and Offset Plate; and Printing Presses.
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See Brass Rule; Cutting, Creasing and Perforating Rule; Lead and Rule; and Broaches for Vertical Tabular Rule.
RULE BENDING, CREASING AND CUTTING MACHINES
See also Cutting Rule, Bending, etc., Machines; also see Lead, Rule and Slug Cutting and Mitering Machines.
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RULE JOINTER (BRASS)
See Brass Rule.
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See Broaches for Cutting Slugs and Vertical Brass Rule; and also Composing Machines and Supplies.
RULING MACHINES (PAPER), ACCESSORIES, SUPPLIES, ETC.
Disc and Pen Rulers; Disc Machines with Head Imprinters; Dryers as well as Flannels; Ink; Ox Gall and Pens, etc. For Wax Ruling Machines see Wax, etc. For Litho Stone Rulers, see Lithographic and Offset Plate Making, Equipment and Supplies.
*Fuller, E. C., Co., 28 Reade St., New York City.
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.
***LINDBLADH CORP., THE, 40 Court St., Boston, Mass. 82**
*McAdam & Sons, John, 978 Kent Ave., Brooklyn, N. Y.
*Rens, Fred, & Son, Glendale, L. I., N. Y.
Speed-E Crossed Rule System, 407 E. Pico Blvd., Los Angeles, Calif.
*Wells & Co., 536 S. Clark St., Chicago, Ill.
*Zanetti, J., Machine Works, 1701 Kirkwood Ave., San Francisco, Calif.

S

SAFETY BENZINE AND OIL CANS
See Cans.
SAFETY DEVICES AND SIGNAL SYSTEMS OF ALL KINDS
See Guards. See Dynamos, etc.
SAFETY INK
See Ink.
SALES BOOK PRINTING AND FINISHING MACHINES
See Printing Presses.
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Covell-Hanchett Co., Big Rapids, Mich.
FOLEY MFG. CO., 11 Main St., N. E., Minneapolis, Minn. 127
***HOE, R. & CO., 138th St. and E. River, New York City 56-57**
***TESCH MFG. CO., INC., 2850 S. 20th St., Milwaukee, Wisc. 27**
WARDWELL MFG. CO., Cleveland, Ohio 124
SAW TABLES
See Tables.
SAW TRIMMER DRIVES
See Dynamos, etc.
SAWING AND TRIMMING, TOOL GRINDING, DRILLING, JIG SAWING, ROUTING AND TYPEHIGH PLANING MACHINERY
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d. Routing
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j. Saw Blades only
*"All-Ready" Dies, The, 56 E. 66th St., New York City — *c.*
*American Steel Chase Co., 122 Centre St., New York City — *e-g.*
Atkins, E. C., & Co., 402 S. Illinois St., Indianapolis, Ind. — *h-j.*
*Automatic Saw Sharpening Co., 735 E. Ohio St., Indianapolis, Ind.— *c-d-j.*
CHICAGO WHEEL & MFG. CO., 1130 W. Monroe St., Chicago, Ill.— *d-f* 112
Covell-Hanchett Co., Big Rapids, Mich.— *f.*
*Cusman Electric Co., 69 S. Main St., Concord, N. H.— *d.*
*Elgin Bending Machine Co., Elgin, Ill.— *c-d-e.*
FLEXIDEAL DRY MAT CO., 21 West St., New York City 103
***HACKER MFG. CO., 320 S. Honore St., Chicago, Ill.— *c* 105**
*Hammond Machinery Builders, Inc., 1615 Douglas Ave., Kalamazoo, Mich.— *c-d-e-g.*
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.— *f.*
***HOE, R., & CO., 138th St. and E. River, New Uork City — *a-h-c-d-e-g-k-j* 56-57**
*Hofbauer, George, & Co., 501 S. Dearborn St., Chicago, Ill.— *f.*
*Hopmans & Connelly, 45 N. Division St., Buffalo, N. Y.—*f.*
*Jorson & Carlson Co., Inc., 707 S. Dearborn St., Chicago, Ill.— *f.*
*Kellet Co., 501 S. Dearborn St., Chicago, Ill.— *f.*
LAKE ERIE STEREOTYPE EQUIPMENT CO., Kenmore Station, Buffalo, N. Y. 102
Marathon Electric Mfg. Co., P. O. Box 440, Wausaw, Wisc.— *f.*
***MARGACH MFG. CO., INC., 213 Centre St., New York City — *d* 5**
***MILLER PRINTING MACHINERY CO., 1117 Reedsdale Ave., Pittsburgh, Pa.— *c-d-e-g* 76-77**
***MILWAUKEE SAW TRIMMER CORP., 612 E. Claybourn St., Milwaukee, Wisc.— *c-b-e-g* 19**
*Missouri-Central Type Foundry, Wichita, Kans. — *d-e*
*Mohr Lino-Saw Co., 609 W. Lake St., Chicago, Ill.— *e-g.*
***NELSON, C. B., & CO., 727 S. Dearborn St., Chicago, Ill.— *e-g* 80**
*Ostrander-Seymour Co., The, 1900 S. 54th St., Cicero, Chicago, Ill.— *c-d-e.*
Printers' Equipment Mfg. Co., 1408 Adams St., Toledo, Ohio — *g.*
*Reid Bros., Inc., 140 Elliott St., Beverly, Mass.— *f.*
***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich.— *a-b-d-e-g* 129**
*Rogers, Samuel C., & Co., 191 Dutton Ave., Buffalo, N. Y.— *f.*
***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill. — *e-h-j* 93**
Royle, John, & Sons, Straight and Essex Sts., Patterson, N. J.— *c-d-e-g-h.*
*Standard Process Co., 734 Mather St., Chicago, Ill.— *f.*
STEREOTYPE EQUIPMENT CO., 3628-30 Lincoln, Ave., Chicago, Ill.— *d-m-o-p-w* 29
*Swanson, John, Co., 709 S. Dearborn St., Chicago, Ill.— *f.*
*Sypher-Arcon Co., The, Toledo, O.— *g.*
***TESCH MFG. CO., 2700 S. 20th St., Milwaukee, Wisc.— *f* 27**
Wallace, J. D., & Co., 134 S. California Ave., Chicago, Ill.— *b-e.*
*Wundes, A., Son, 141 Front St., Rochester, N. Y.— *f.*
*Zanetti, J., Machine Works, 1701 Kirkwood Ave., San Francisco, Calif.— *d.*
SCORCHERS, STEREO MAT
See Stereotypers' Machinery.
SCORING MACHINES
See Perforating, Punching, etc.
SCREEN HOLDERS, RECTANGULAR AND ROTARY CIRCULAR
See Cameras.
SAW TRIMMER WORK HOLDERS
***MARGACH MFG. CO., INC., 213 Centre St., New York City 5**
***RICHARDS, J. A., CO., INC., 903 N. Pitcher St., Kalamazoo, Mich. 129**
SEAL CUTTING AND AFFIXING MACHINES (AUTOMATIC)
*Kay Bee Sealing Service, 188 W. 4th St., New York, N. Y.
*Murphy Specialty Co., 212 S. Third St., Milwaukee, Wisc.
SECTIONAL BLOCKS
See Plate Mounting Equipment.
SECTIONAL CHASES
See Plate Mounting Equipment.
SELF-CENTERING RADIUS ROLLER BACKERS
See Bookbinding Machinery.
SELF-LOCKING CHASES
See Chases.
SEMI-STEEL IMPOSING SURFACES
See Imposing Frames, etc.
SEWING BENCHES
See Bookbinding Machinery.
SEWING MACHINES AND NEEDLES
*Smyth, Jos. F., Co., 343 S. Dearborn St., Chicago, Ill.
*Smyth Mfg. Co., The, 9 Sigourney St., Hartford, Conn.
SEWING SILKS
See Cloth, etc.
SHAVING MACHINES
See Stereotypers' Machinery.
SHADING SHEETS (FOR DRAWING AND PROOFS)
See also Artists' Shading Sheets.
BOURGES SERVICE, INC., 175 Fifth Ave., New York City 114
SHEARS AND BLADES
a. Shears
b. Blades only
*Hickok, W. O., Mfg. Co., 9th and Cumberland Sts., Harrisburg, Pa.— *a.*
***HOE, R., & CO., 138th St. and East River, New York City 56-57**
*Jacques, John, & Son, 93 Webster St., Worcester, Mass. — *a.*
***SIMONDS-WORDEN-WHITE CO., Dayton, O. 116**
*Wesel, F., Mfg. Co., Scranton, Pa.— *a.*
SHEET AND BOARD GLUERS
See Gluing, Gumming, etc., Machinery.
SHEET CONVEYORS, AUTOMATIC
See Feeders and Folders, etc.
SHEET CUTTERS (INTERMITTENT FEED AND ROTARY)
See Cutting and Trimming Machines.
SHEET DELIVERY ROTARY PRESSES
See Printing Presses
SHEET DRYERS
See Electric and Gas Heaters.
SHEET FEED OFFSET PRESSES
See Printing Presses.
SHEET FEED ROTARY MULTI-COLOR PRINTING PRESSES
See Printing Presses.
SHEET HEATERS
See Electric and Gas Heaters; or Die Heaters.
SHEET LAPPING DEVICES
***LINDBLADH CORP., THE, 40 Court St., Boston, Mass. 82**
SHEET PARAFFINING MACHINES
See Paraffining, etc., Machinery.
SHELVING, STEEL
See Cabinets, etc.
SHOOT BOARDS AND PLANERS
*Challenge Machinery Co., Grand Haven, Mich.
***HOE, R., & CO., 138th St. and E. River, New York City 56-57**
***PRINTING MCHY. CO., 436 Commercial Sq. Cincinnati, O. 13**
*Warnock, W. S., Co., 1524 Jonquil Terrace, Chicago, Ill.
SHOOTING STICKS AND SIDE STICKS
See Fly Sticks, etc.
SHOWCARD PRESSES
Showcard Machine Co., 1192 Merchandise Mart, Chicago Ill.
SIGNATURE PRESSES
See Banding and Bundling Presses.
SILK SCREEN PROCESS
See Stencil Printing Machines and Supplies.
SINGLE MOTOR CONTROLS, MAGAZINE TYPE
See Dynamos, etc.
SINGLE PLATEN STEEL PLATE PRINTING PRESSES
See Die Stamping, etc., Presses.
SIZE FOR FOIL STAMPING
See Foil; for Bronze Printing Size, see Ink; for Bookbinders' Glue Size, see Adhesives.
SKIVING MACHINES
See Bookbinding Machinery.
SLIP SHEET SEPARATING MACHINES
*Chambers Bros. Co., 52nd and Media Sts., Philadelphia, Pa.
SLITTING AND PRINTING MACHINES
See Printing Presses.

SLITTING AND REWINDING MACHINERY
Cameron Machine Co., 61 Poplar St., Brooklyn, N. Y.
*Davidson Corp., 7153 68th Pl., Brooklyn, N. Y.
*Heff, Leslie D., 2100 Westbury Ct., Brooklyn, N. Y.
*Jacques, John, & Son, 93 Webster St., Worcester, Mass.

***U.P.M.-KIDDER PRESS SO., INC., 121 Broadway, Dover, N. H.----118**

SLOT HOLING MACHINES
See Perforating, Punching, etc., Machinery.

SLOT ROTARY PERFORATORS
See Perforators, Punches, etc.

SLUG BROACHING MACHINES
Rules and Systems — See Broaches.

SLUG CASTING MACHINES
See Composing Machines and Supplies.

SLUG CASTING MACHINE SAWS
See Sawing, Trimming, etc., Machinery.

SLUG CLIPPERS, CUTTERS AND CUTTING MACHINES
See Lead, Rule and Slug Cutting and Mitering Machines; also Sawing, Trimming, etc., Machines.

SLUG FEEDERS
See Metal Feeders, etc.

SLUG HOLDING ATTACHMENTS FOR SAW TRIMMERS
See Sawing, Trimming etc., Machinery.

SLUG SAWING ATTACHMENTS
See Lead, Rule and Slug Cutting, etc.

SLUGS
See Leads and Rule.

SLUGS SAWS
See Sawing, Trimming, etc., Machinery.

SMALL SECTIONAL PLATE MOUNTING SYSTEMS
See Plate Mounting Equipment.

SMASHERS (BOOK)
See Bookbinding Machinery.

SOLIDIFYING AND STRAIGHTENING PRESSES
See Stereotypers' Machinery.

SORT BOXES AND RACKS
See Cabinets.

SPACEBAND CLEANING MACHINES
See Composing Machines, and Supplies.

SPACES
See Leads and Rule; and see Brass Rule and Brass and Copper Thin Spaces.

SPECIAL AND SPECIALLY DESIGNED PRINTING PRESSES
See Printing Presses.

SPECIAL CAMERAS, DESIGNERS AND BUILDERS
See Cameras.

SPECIAL CHASES TO ORDER
See Chases, etc.

SPECIAL FOLDING MACHINES
See Feeders, Folders, etc.

SPECIAL MACHINERY BUILDERS
See under various heads.

SPECIALTY PRINTING PRESSES
See Printing Presses.

SPEED ADJUSTERS OR CONTROLLERS, PRINTING PRESSES
See Dynamos, etc., see also Pulleys.

SPIRAL GROOVE PLATE CYLINDERS
See Plate Mounting Equipment.

SQUEEGEE PLATES
See Rotogravure Printing Equipment.

STABBING MACHINES (BOOK)
See Bookbinding Machinery.

STAMPING PRESS HEATERS
See Die Heaters.

STAMPING MACHINES OR PRESSES
See Die Stamping, etc., Presses.

STANDING PRESSES
See Bookbinding Machinery.

STANDS (TYPE, ETC.)
See Cabinets.

STAPLING MACHINES AND STAPLES
Acme Staple Machine Co., 1643 Haddon Ave., Camden, N. J.
*Automatic Stapler Co., Inc., St. Clair Bldg., Chicago, Ill.

STAR WHEELS
See Fly Sticks.

STATIC NEUTRALIZERS AND INK OXIDIZERS
See Electric and Gas Heaters, etc.

STEAM DRYING TABLES
See Stereotypers' Machinery.

STEEL AND IRON FURNITURE
See Furniture and Reglet.

STEEL AND SEMI-STEEL IMPOSING SURFACES
See Imposing Frames, etc.

STEEL CHASES
See Chases.

STEEL COLUMN AND HEAD RULE
See Leads and Rule.

STEEL COMPOSING ROOM EQUIPMENT
See Cabinets, etc.

STEEL CREASING, CUTTING AND PERFORATING RULE
See Cutting, Creasing and Perforating Rule.

STEEL CROSS CUT PERFORATING RULE
See Cutting, Creasing and Perforating Rule.

STEEL CUTTING PLATES
See Carton and Paper Box Makers' Machinery.

STEEL DIE PRESSES
See Die Stamping, etc., Presses.

STEEL DIE STAMPING INKS
See Ink.

STEEL ELECTRO BEARERS
See Roller Bearers.

STEEL GALLEYS
See Galleys.

STEEL NEWSPAPER BASES
See Plate Mounting Equipment.

STEEL PLATE PRINTING PRESSES
See Die Stamping, etc., Presses.

STEEL RULE BENDERS AND CUTTERS
See Cutting Rule, Bending, etc., Machinery.

STEEL RULE DIES MADE TO ORDER
*Richards, J. A., Co., Inc., 903 N. Pitcher St., Kalamazoo, Mich.

***RICHARDS, J. A., CO., INC., 903 N. Pitcher St., Kalamazoo, Mich.----129**

STEEL TYPE
See Type.

STENCIL CUTTING MACHINES
Marsh Stencil Machine Co., Belleville, Ill.
Selectasine Patents Co., 558 Sacramento St., San Francisco, Calif.

STENCIL PROCESS PRINTING MACHINES, STENCIL SILK AND SUPPLIES
a. Machines *b.* Silk *c.* Supplies
Naz-Dar Co., 4014 N. Rockwell St., Chicago, Ill.— *a-b-c.*

STEP AND REPEAT OR PHOTO COMPOSING MACHINES
See Lithographic and Offset Plate Making, Equipment and Supplies.

STEREOTYPE BASES AND BLOCKS
See Plate Mounting Equipment.

STEREOTYPE CASTING BOXES OR MOUNDS
See Stereotypers' Machinery.

STEREOTYPE CHASES
See Chases.

STEREOTYPE EQUIPMENT
See Stereotypers' Machinery.

STEREOTYPE FLONGS OR MATS
See Stereotypers' Machinery; also Paper and Board.

STEREOTYPE GAUGES
See Gauges.

STEREOTYPE MATRIX BACK-UP STRIPS
See Stereotypers' Machinery.

STEREOTYPE MATRIX DRYING TABLES
See Stereotypers' Machinery.

STEREOTYPE MATRIX MOULDING PRESSES
See Stereotypers' Machinery.

STEREOTYPE MATRIX SCORCHERS
See Stereotypers' Machinery.

STEREOTYPE METAL
See Metal.

STEREOTYPE METAL LADLES
See Stereotypers' Machinery.

STEREOTYPE PLATE CONVEYORS AND DROPPERS
See Stereotypers' Machinery, Accessories, etc.

STEREOTYPE PLATE CUTTING OFF CYLINDERS
See Stereotypers' Machinery.

STEREOTYPE PLATE FINISHING, COOLING AND DRYING MACHINES
See Stereotypers' Machinery.

STEREOTYPE PLATE MAKE READY SHEETS
See Stereotypers' Machinery.

STEREOTYPE PLATE MOULDS
Flat and Curved. See Stereotypers' Machinery.

STEREOTYPE PLATE SHAVING AND SQUARING MACHINES
See Stereotypers' Machinery; also Sawing, Trimming, etc., Machinery.

STEREOTYPE POT HEATERS
See Stereotypers' Machinery; also Metal Feeders, etc.

STEREOTYPE PRESSES
See Stereotypers' Machinery, etc.

STEREOTYPE RATCHETS
See Stereotypers' Machinery.

STEREOTYPE SAWS
See also Sawing, Trimming, etc., Machinery.

In Case You Can't Find It
Just Ask
Printing
EQUIPMENT
Engineer

STEREOTYPERS' MACHINERY, ACCESSORIES TOOLS AND SUPPLIES

Bending, Boring, Curing, Roughing and Shaving Machinery; Blankets; Bumping-Up Presses; Casting Boxes and Machines; Correcting Machines; Cooling and Drying Tables; and Apparatus; Dry Mats and Humidors; Finishing, Cooling and Drying Machines; Finishing Slabs, Turtles, and Tools; Gauging Machines; Matrix Papers, Parting Powder, Rolling Machines and Presses, Scorchers, Tissue Holders; Metal Dross Sifters, Ladles and Skimmers; Moulds; Reforming, Solidifying and Straightening Presses, etc.; See also Metals; Metal Feeders, etc.; Sawing, Trimming, etc., Machinery, Shears, etc.

a. Bending, Boring, Curving, Roughing and Shaving Machines
b. Blankets
c. Bumping-Up Presses
d. Casting Boxes and Machines
e. Correcting Machines
f. Cooling and Drying Tables
g. Direct Pressure Machines
h. Dry Mats
i. Finishing Slabs, Turtles and Tools
j. Finishing, Cooling and Drying Machines
k. Formers
l. Gauging Machines
m. Humidors
n. Matrix Papers
o. Metal Dross Sifters, Ladles and Skimmers
p. Molds
q. Parting Powder
r. Plate Shavers
s. Reforming, Solidifying and Straightening Presses
t. Rolling Macines
u. Routing Machines
v. Sawing and Trimming Machinery
w. Scorchers
x. Tissue Holders
y. Trade Mats and Sterotypes
z. Parts, Gears, etc.
aa. Plate Conveyors and Drops

See also Metals; Metal Feeders, etc.

American Matrix & Plate Co., Inc., 228 E. 45th St., New York City — *y.*

***AMERICAN PUBLISHERS SUPPLY, P. O. Box 131, West Lynn, Mass.**— *b-t-w- and stereotype supplies; composing room accessories, and press-room supplies----14-15**

BURGESS CELLULOSE CO., Freeport, Ill.— *h--115*

Certified Dry Mat Corp., 342 Madison Ave., New York City — *h.*
Carpenter-Tew Gear Co., 67-87 35th St., Brooklyn, N. Y. — *z.*

***CLAYBOURN CORP., 3713 N. Humboldt Ave., Milwaukee, Wisc.**— *a-d-g-j-w----22*

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Drive, Chicago, Ill.**— *aa----99*

*Conn & McGuire Machine Co., Delphi, Ind.— *t.*

***COTTRELL, C. B., & SONS CO., P. O. Drawer 515, Westerly, R. I.----64-65**

*Duplex Printing Press Co., The, Battle Creek, Mich.— *d-j-o-r-s-t*
Electro-Hydraulic Machinery Co., The, 1025 Schweitzer Ave., Akron, O.— *q.*
*Elgin Bending Machine Co., Elgin, Ill.— *a-d-k.*

FLEXIDEAL DRY MAT CO., 21 West St., New York City — *d-p-u-v----103*

*Hammond Machinery Builders, Inc., 1615 Douglas Ave., Kalamazoo, Mich.— *d-p-u-y.*

***HOE, R., & CO., 138th St. and East River, New York City** — *a-b-c-d-e-f-g-h-j-k-l-m-n-o-p-s-t-u-v-w-x-y-z-aa----56-57*

Jampol Co., The, 11 Park Pl. New York City — *aa.*

LAKE ERIE STEREOTYPE EQUIPMENT CO., Kenmore Station, Buffalo, N. Y.----102

*Missouri-Central Type Foundry, Wichita, Kans.— *d-t.*

MORLEY BUTTON MFG. CO., 865 Islington St., Portsmouth, N. H.— *h----125*

*Montgomery & Bacon, Elizabeth and Railroad Aves., Towanda, Pa.— *d.*
*Ostrander-Seymour Co., The, 1874 S. 54th Ave., Cicero, Chicago, Ill.— *machinery and equipment.*
Partlow Corp., The, 2 Campion Rd., New Hartford (suburb of Utica), N. Y.— *f-j.*
Premier Flong Co., 258 Broadway, New York City — *h.*
Redimat Sales Co., 406 Burk-Burnett Bldg., Fort Worth, Tex.— *h.*

***SCOTT, WALTER, & CO., Plainfield, N. J.**— *a-d-g-t----62*

Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.— *d-k-l-m-r-u-w.*

***STAHI NEWSPAPER SUPPLY CO., INC., Oregonia Bldg., Portland, Ore.**— *b-k-w----6-7*

***STEREOTYPE EQUIPMENT CO., 3628-30 Lincoln Ave., Chicago, Ill.**— *d-m-o-p-w* **29**

Wesel, F., Mfg. Co., Scranton, Pa.—*g-r-j-l-m-n-o-p-r-u-v-w.*
*Wesel, F., Mfg. Co., Scranton, Pa.—*g-r-l-m-n-o-p-r-u-v-w.*
*White Mfg. Co., 1227 W. Beardsley Ave., Elkhart, Ind.—*r.*

WOOD FLONG CORP., Hoosick Falls, N. Y.— *k* **111**

***WOOD NEWSPAPER MACHINERY CORP., 501 Fifth Ave., New York City** — *d* **12**

STEREOTYPING CASTING MACHINES
See Stereotypers' Machinery.

STEREOTYPING MACHINERY DRIVES
See Dynamos, etc.

STICK RESTS
See Composing, etc., Sticks.

STICK-UP SHEETS
See Lithographic and Offset Plate Making, Equipment and Supplies.

STIPPLING MACHINES
See Pebbling, etc., Machines.

STITCHING FLOSS (SILK)
See Cloth, etc.

STITCHING MACHINE DRIVES
See Dynamos, etc.

STITCHING MACHINE FEEDERS
See Feeders, Folders, etc.

STITCHING MACHINES AND STITCHING WIRE
a. Machines *b.* Wire
Chicago Steel & Wire Co., 10257 Torrence Ave., Chicago, Ill.— *b.*
*Christensen Machine Co., The, 100 Fourth St., Racine, Wisc.— *a.*
*Dexter Folder Co., 28 W. 23rd St., New York City — *a.*
*Gitzendanner-Muller Co., Inc., 15 Vanderwater St., New York City — *a.*
*New Jersey Wire Stitching Machine Co., 608 S. Second St., Camden, N. J.— *a-b.*
*Rosback, F. P., Co., Benton Harbor, Mich.— *a.*
*Sheridan Co., T. W. & C. B., 135 Lafayette St., New York City — *a.*
*Wanner Co., The, 720 S. Sherman St., Chicago, Ill.— *b.*

STOCK TABLES
See Tables.

STONE GRINDING AND PLANING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

STONE IMPOSING SURFACES
See Imposing Frames Surfaces and Tables.

STOOLS
See Chairs, Press Seats and Stools.

STORAGE SYSTEMS (GALLEY)
See Cabinets.

STORAGE CABINETS AND TABLES
See Tables.

STRAIGHT LINE ROUTING MACHINES
See Sawing, Trimming, etc., Machinery.

STREET CAR TRANSFER PRINTING AND FINISHING MACHINES
See Printing Presses.

STRINGING MACHINES
See Knotting, etc., Machines.

STRIP END GUMMERS
See Gluing, Gumming, etc., Machinery.

STRIP END TRIMMERS (ROTARY)
See Bookbinding Machinery.

STRIP LABEL PRINTING AND FINISHING MACHINES
See Printing Presses.

STRIPPING MACHINES
See Gluing, Gumming, etc., Machinery.

STRIP TICKET PRINTING AND FINISHING MACHINES
See Printing Presses.

SUPER PRODUCTION AND SUPER SPEED NEWSPAPER PRESSES
See Printing Presses.

SWITCHBOARDS, SWITCHGEAR, ETC.

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill.** **99**

Cutler-Hammer, Inc., 542 N. Twelfth St., Milwaukee, Wisc

***GENERAL ELECTRIC CO., Schenectady, N. Y. 23-60-61-97**

SWIVEL CABINETS
See Cabinets.

T

TAB CUTTING MACHINES
See Round Corner Cutters, etc.

TABBING COMPOSITION OR TABLET CEMENT
See Adhesives.

TABBING PRESSES
*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J.
*Murphy, Jos. E., 91 Exchange St., Worcester, Mass.

TABLE SHEARS
See Shears.

TABLES
Bindery, Mailing, and Make-Ready, etc., including Work Benches. For Form Tables see Form Lifts, etc.; for Imposing Tables see also Imposing Frames, etc.; for Line-Up and Registering Tables see Line-Up, etc.; Devices; for Steam Drying Tables see Stereotypers' Machinery.
Globe-Wernicke Co., The, Cincinnati, O.
*Hall, Thomas W., Co., Inc., 167 First St., San Francisco, Calif.
Heston & Anderson, Fairfield, Iowa.
Jampol Co., The, 11 Park Pl., New York City.
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.

***RICHARDS, J. A., CO., 903 N. Pitcher St., Kalamazoo, Mich.** **129**

Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.
*Verrinder, E. A., 827 Alvardo St., Redlands, Calif.
*Willsea Works, The, 1042 University Ave., Rochester, N. Y.

TABLET BINDING MACHINES
See Bookbinding Machinery.

TABLET KNIVES
See Tools.

TABLETING PRESSES
See Tabbing Presses.

TABULAR SYSTEMS FOR MACHINE COMPOSITION
See Broaches.

TAG AND TICKET EMBOSSING, PRINTING, METAL EYELETTING AND PAPER PATCHING MACHINES
See Printing Presses.

TAP LOOPING OR STRINGING MACHINES
See Knotting, etc., Machines.

TAG MAKING AND PRINTING PRESSES
See Printing Presses.

TAG PATCH REINFORCERS AND EYELETTERS
See Eyeletting Machines.

TAIL BOARD, STEREO
See Paper and Board.

TAKE SLUGS
See Leads and Rule.

TALLY TICKET FOLDING MACHINES
See Feeders, Folders, etc.

TAPE END TRIMMERS
See Bookbinding Machinery.

TAPE MOISTENERS
*Fuller, E. C., Co., 28 Reade St., New York City.

TAPE PRINTING MACHINES
See Printing Presses Combined Process.

TAR OR BINDERS' BOARD
See Paper and Board.

TEMPERATURE CONTROL AND REGISTERING DEVICES
See Air and Paper Conditioning Equipment.

TEST PRESSES
See Proof and Test Presses.

THERMOGRAPHY EQUIPMENT
See Raised Letter Printing Machinery.

THREAD BOOK SEWING MACHINES
See Sewing Machines.

THREAD STITCHING MACHINES
See Knotting, etc., Machines.

THREAD AND TWINE (Binders')
See Cloth, etc.

THREE KNIFE TRIMMERS
See Cutting and Trimming Machines.

THUMB INDEXERS (AUTOMATIC)
See Round Corner Cutters, etc.

TICKET PRINTING PRESSES
See Printing Presses.

TIERING MACHINES
See Paper Lifts.

TIE-UP OR PAGE FRAMES
See Chases, etc.

TIME CLOCKS, RECORDERS AND STAMPS
Kastens, Henry, Co., 418 W. 27th St., New York City.
Simplex Time Recorder Co., Gardner, Mass.
Stromberg Electric Co., 223 W. Erie St., Chicago, Ill.

TIME TABLE REFOLDING MACHINES
See Feeders, Folders, etc.

TIN AND METAL DECORATING OFFSET PRESSES
See Printing Presses.

TIN BRONZING MACHINES
See Bronzing Machines.

TIN MOUNTING MACHINES AND TIN MOUNTING STRIPS, BRASS LOOPS, ETC.
Stuebing Automatic Machine Co., Cincinnati, O.

TIN PRINTING PRESSES
See Printing Presses.

TIPPING MACHINES
See Gluing, Gumming, etc., Machinery.

TISSUE LEAF
See Foil.

TOGGLE HOOKS
See Plate Mounting Equipment.

TOOL CABINETS
See Cabinets.

TOOL GRINDERS
See Sawing, Trimming, etc., Machinery.

TOOLING PRESSES
See Bookbinding Machinery.

TOOLS
Back Saws, Bodkins, Bone Folders, Eyelet Pliers, Mallets, Miter Boxes, Tweezers, Tympan Stabbers, etc. See also Knives; Bookbinding Machinery for Binding Tools; and Sterotypers' Machinery for Stereotypers' Tools.
*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J.
Brown & Sharpe Mfg. Co., Providence, R. I.

HOE, R., & CO., 138th St., and E. River, New York City **56-57**

***ROUSE, H. B., CO., 2214 Ward St., Chicago, Ill.** .. **93**

SEBASTIAN LATHE CO., 3rd and Philadelphia Sts., Covington, Ky. **100**

TRADE EMBLEMS
See Stock Cuts.

TRANSFERING MACHINES, TRANSFER PAPER AND TRANSFER PRESSES
See Lithographic and Offset Plate Making Equipment and Supplies.

TRANSFORMERS, ELECTRICAL

***GENERAL ELECTRIC CO., Schenectady, N. Y. 23-60-61-97**

*Simcoe Mfg. Co., Inc., 430 Race St., Philadelphia, Pa.

TRAYS (DRYING)
See Cabinets.

TRIMMER HEAD TOOLS
See Sawing, Trimming, etc., Machinery.

TRIMMER KNIVES
See Cutting and Trimming Machines, Knives, etc., or Sawing, Trimming, etc., Machinery.

TRIMMERS (BOOK, JOB AND CONTINUOUS)
See Cutting and Trimming Machines.

TRIMMERS (SAW)
See Sawing, Trimming, etc., Machinery.

TRUCKS
For Form Trucks see Form Lifts, etc.
*American Steel Chase Co., 122 Centre St., New York City.
*Anderson, C. F., & Co., 3225 Calumet Ave., Chicago, Ill.
Central Machine Works, 437 S. Senate Ave., Indianapolis, Ind.

***CLINE ELECTRIC MFG. CO., 211 W. Wacker Dr., Chicago, Ill.** **99**

*Haywood, C. B., Co., 431 N. W. Glisan St., Portland, Ore.
Jampol Co., The, 11 Park Pl., Park-Murray Bldg., New York City.

***KOHLER BROS., 410 N. Michigan Ave., Chicago, Ill.** **18**

Lewis-Shepard Co., 227 Walnut St., Watertown, Mass.
*Marresford, Wm. F., Inc., College and Highland Aves., Niagara Falls, N. Y.
*Morgan Expansion Roller Truck Co., 6368 Hollywood Blvd., Hollywood, Calif.
*Morgans & Wilcox Mfg. Co., 69 Hanford St., Middletown, N. Y.

***MONOMELT CO., THE, INC., 1611-15 Polk St., Minneapolis, Minn.** **127**

Nutting Truck Co., 1002 W. Division St., Faribault, Minn.
*Omaha Folding Machine Co., 2009 Cumming St., Omaha, Nebr.
Revolvator Co., 340 Garfield Ave., Jersey City, N. J.

***SCOTT, WALTER, & CO., Plainfield, N. J.** **62**

***SLATER, H. ROBERT, CO., 1443 Carroll Ave., Chicago, Ill.** **123**

*Southworth Machine Co., 30 Warren Ave., Portland, Me.

TRUCKING AND HAULING

KRASILOVSKY, M., & BROS., INC., 216 Centre St., New York City **110**

TUBE PRINTING AND COATING MACHINES (METAL COLOR)
*General Printing Ink Co., Rutherford Machinery Co. Div., 100 Varick St., New York City.

TURBO HUMIDIFIERS
See Air and Paper Conditioning.

TURTLES (FINISHING AND TOOLS)
See Stereotypers' Machinery.

TWO COLOR AUTOMATIC JOB PRESS
See Printing Presses.

TWO COLOR PRESSES
See Printing Presses.

TWO REVOLUTION CYLINDER PRESSES
See Printing Presses.

TWO SHEET ROTARY PRESSES
See Printing Presses.

TYING MACHINES
See Bundle Tying and Packaging Machines.

TYMPAN PAPER
See Paper and Board.

TYMPAN PAPER HOLDERS
See Paper Holders.

TYMPAN RUBBER
See Blankets.

TYMPAN STABBERS
See Tools.

TYPE
Aluminum, Brass, Casting Machine Matrix, Metal Foundry, Steel and Wood.
a. Aluminum
b. Brass
c. Casting Machine Matrix
d. Metal Foundry
e. Steel
f. Wood
g. Borders

*Acme Wood Type Mfg. Co., 61 Beekman St., New York City — *f.*
*American Type Founders Sales Corp., 300 Communipaw Ave., Jersey City, N. J.— *d-g.*
*American Wood Type Mfg. Co., 270 Lafayette St., New York City — *f.*
*Baltimore Type & Composition Co., 15 S. Frederick St., Baltimore, Md.— *d.*
*Bauer Type Foundry, Inc., The, 235 E. 45th St., New York City — *d.*
*Chicago Type Foundry, 553 S. Clark St., Chicago, Ill.— *d.*
*Continental Type Founders Assn., 228 E. 45th St., New York City — *d.*
*Dearborn Type Foundry, 2101 W. Van Buren St., Chicago, Ill.— *c-d.*
*Dura Type Founders Co., 575 Greenwich St., New York City — *d.*
*Eagle Type Founders Co., 625 W. Jackson Blvd., Chicago, Ill.— *d.*
*Empire Type Foundry, Delevan, Cattaraugus Co., N. Y. — *b-d.*
*Empire Wood Type Mfg. Co., 252 Water St., New York City — *f.*
*Globe Type Foundry, Inc., 320 S. Jefferson St., Chicago, Ill.— *d.*
*Hamilton Mfg. Co., 1315 18th St., Two Rivers, Wisc.— *f.*
Imprint Matrix Co., Moravian Falls, N. C.— *c.*
*Indiana Printers Supply Co., 109 Kentucky Ave., Indianapolis, Ind.— *d.*
*Kelsey Press Co., The, 62 Colony St., Meridan, Conn.— *d.*
*MacKenzie & Harris, Inc., 659 Folson St., San Francisco, Calif.— *d-g.*

M. & L. TYPEFOUNDRY, 4001 Ravenswood Ave., Chicago, Ill.— *d* **108**

Machine Composition Co., 470 Atlantic Ave., Boston, Mass.— *d.*
*Man-O-Type Foundry, 317 E. 4th St., Los Angeles, Calif.
Meredith Monotype Co., 316 S. W. 11th Ave., Portland, Ore.— *d.*
*Meyer, John C., & Son, 129-137 N. Twelfth St., Philadelphia, Pa.— *d.*
*Missouri Brass Type Foundry Co., Inc., 1620 N. 22nd St., St. Louis, Mo.— *b.*
*Missouri-Central Type Foundry, 701 E. Murdock Ave., Wichita, Kans.— *d.*
*Monsen & Son, Inc., Thormod, 730 N. Franklin St. Chicago, Ill.— *d.*
*Mitchell, Frank, 228 E. 45th St., New York City — *d.*
*Montgomery & Bacon, Elizabeth and Railroad Aves., Towanda, Pa.— *d.*
*National Matrix & Type Co., 15 S. Frederick St., Baltimore, Md.— *c-d.*
*National Type Foundry, The, 340 Blvd. of the Allies Pittsburgh, Pa.— *d.*
*Neotype Co., 52 E. 19th St., New York City — *d.*
*New Jersey Type Foundry, Cranford, N. J.— *d.*
*Northwest Type Foundry, 510 Fifth Ave., Minneapolis, Minn.— *d.*
*New England-Connecticut Type Founders, Meridan, Conn.— *d.*

***PERFECTION TYPE, INC., 141 E. 5th St., St. Paul, Minn.**— *d* **129**

*Quaker City Type Foundry, 212 Chancellor St., Philadelphia, Pa.—*d.*
*Ray-Co.Supply House, 231 W. Illinois St., Chicago, Ill.—*d.*
*Rulex Type Corp., 549 S. Wells St., Chicago, Ill.—*d.*
*Sterling Type Foundry, Vermontville, Mich.— *d.*
*Stevens, F. H., Type Co., 407 Atlantic Ave., Boston, Mass.— *d.*
*Stripfounders, 1135 Cambridge Ave., Chicago, Ill.— *d.*
*Taylor, W. E., Co., 209 W. 38th St., New York City — *g.*
Tegge, G. G., & Sons, Inc., 45 Rose St., New York City — *d.*
*Turner Type Founders, Inc., 1729 E. 22nd St., Cleveland, Ohio — *d.*

TYPE BORDERS
See Type.

TYPE CABINETS, CASES, RACKS AND STANDS
See Cabinets.

TYPE CASE CLEANERS
See Blowers.

TYPE CASTER METAL
See Metal.

TYPE CASTING AND SETTING MACHINES
See Composing Machines.

TYPE CLEANER
See Cleaning Compounds.

TYPE CLEANING MACHINES (AIR)
See Blowers.

TYPE COMPUTERS, GAUGES OR MEASURES AND TYPE HIGH GAUGES
See Gauges.

TYPE HIGH GALLEYS
See Galleys, etc.

TYPE HIGH MACHINES OR PLANERS
See Sawing, Trimming, etc., Machinery; also see Gauges.

TYPE IMPRESSION PLATES FOR OFFSET PRESSES
See Aluminum, Copper and Zinc Plates.

TYPE METAL THERMOMETERS, HYGROMETERS, ETC.

Philadelphia Thermometer Co., The, 915 Filbert St., Philadelphia, Pa.

TYPE METAL AND TYPE METAL CLEANER OR FLUX
See Metals, etc.

TYPE PRINTING PRESSES
See Printing Presses.

TYPE RULES
See Gauges.

TYPE STICKS
See Composing, etc., Sticks.

TYPE WASH
See Cleaning Compounds.

TYPESETTING MACHINE DRIVES OR MOTORS
See Dynamos, etc.

TYPEWRITER PLATES
See Aluminum and Zinc Plates.

TYPEWRITTEN LETTER PRINTING MACHINES
See Printing Presses.

TYPOGRAPHS
See Counters, etc.

U

UNIT OR PORTABLE AIR CONDITIONERS
See Air and Paper Conditioning.

UNIT TYPE PRESS DRIVES
See Dynamos, etc.

UNIVERSAL BLOCKS
See Plate Mounting Equipment.

UNIVERSAL UNIT PRESSES
See Newspaper under Printing Presses.

UPRIGHT TRUCKS
See Trucks.

V

VACUUM NEGATIVE PRINTERS
See Lithographic and Offset Plate Making Equipment and Supplies.

VACUUM PRINTING FRAMES
See Lithographic and Offset Plate Making Equipment and Supplies.

VARIABLE SPEEDMOTORS
See Dynamos, Motors, etc.

VARIABLE SPEED TRANSMISSIONS
See Dynamos, etc.

VARIABLE VOLTAGE SYSTEMS
See Dynamos and Motors.

VARNISH DRYING OVENS
See Gluing, Gumming, etc., Machinery.

VARNISHERS
See Ink.

VARNISHING MACHINES
*Chambers Bros. Co., 52nd St. and Media, Philadelphia, Pa.
Hollingsworth, William, Machine Co., 227-229 Holliday St., Baltimore, Md.
*Wagner, Chas., Litho Machinery Co., Inc., 51 Park Ave., Hoboken, N. J.

VENTILATING SYSTEMS
See Air and Paper Conditioning.

VERTICAL BRASS RULE FOR TABULAR SLUGS
See Broaches, etc.

VERTICAL RULE SLUG CASTING ATTACHMENTS
See Composing and Slug and Type Casting Machines.

VIBRATION ABSORBING AND WEAR RESISTING FLOORS AND FOUNDATIONS
Cork and Spring Suspension Foundations and Wood Block Floors.
Korfund Co., Inc., The, 48-15 Thirty-Second Pl., Long Island, N. Y.
Stonhard Co., 401 N. Broad St., Philadelphia, Pa.

VIBRATORS, INK
See Ink Fountains.

VISES, ROUTER
See Sawing, Trimming, etc., Machinery.

W

WASHUP MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

WASTE CANS
See Cans.

WASTE PAPER BALERS AND RECEPTACLES
See Baling Presses.

WATER COLOR INK
See Ink.

WATER COLOR ROLLERS
See Rollers.

WAX AND LEAD MOULDING PRESSES
See Electrotypers' Equipment.

WAX RULING MACHINES
*General Printing Ink Corp., Rutherford Machinery Div., 100 Varick St., New York City.

WAXING MACHINERY
See Paraffining and Waxing Machines.

WEB BREAKERS

GENERAL ELECTRIC CO., Schenectady, N. Y **23, 60-61, 97**

WEB, PRESSES
See Printing Presses.

WEB FEED OFFSET PRESSES
See Printing Presses.

WEB ROTOGRAVURE PRESSES
See Printing Presses.

WEB ROTARY PRESSES
See Printing Presses.

WET MATS
See Sterotypers' Machinery.

WIPING CLOTH AND TOWELS
Calloway Mills, 295 5th Ave., New York City.

WIRE
See Stitching Machines.

WIRE BOOK SEWING MACHINES

***KRAUSE, KARL, U. S. CORP., 55-57 Vandam St., New York City** **101**

WIRE STITCHER FEEDERS
See Feeders, Folders, etc.

WIRE STITCHING MACHINES
See Stitching Machines.

WOOD BLOCK FLOORS
See Vibration Absorbing, etc.

WOOD FURNITURE AND REGLET
See Furniture and Reglet.

WOOD POSTER BLOCKS
Empire Wood Type Mfg. Co., 252 Water St., New York City.

WOOD QUOINS
See Chases.

WOOD TYPE
See Type.

WORK BENCHES
See Tables.

WORK HOLDERS (FOR SAW TRIMMERS)
See Sawing, Trimming, etc., Machinery.

WRAPPER PRINTING MACHINES
See Printing Presses.

WRAPPER PRINTING AND WRAPPING MACHINES (FOR MAGAZINES)
See Mailers.

WRAPPING MACHINES (FOR CATALOGS AND MAGAZINES)
See Bundle Tying and Packaging Machines.

Z

ZINC PLATE GRAINING MACHINES
See Lithographic and Offset Plate Making Equipment and Supplies.

ZINC PLATES FOR LETTERPRESS, LITHOGRAPHERS AND OFFSET PRINTERS
See Aluminum, Copper and Zinc Plates.

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Printers' ZINK Cut Cement

50 cents per Tube

$5.00 per Doz. Tubes

The E. A. Booth Rubber Company is pleased to announce that owing to improved production methods, Booth's Printers' ZINK Cut Cement now comes to you in a tube containing approximately twice the quantity of cement at the same price as formerly.

●

Booth's Engravers' Concentrated Rubber Cement

Flows smoothly and dries rapidly. Forms an extremely tough base for stripping purposes.

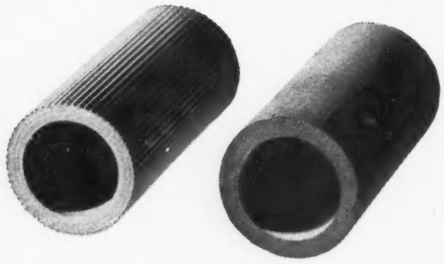
Comparison showing the saving in cost to the user of Booth's Engravers' Rubber Cement:

$7.50 per 5-gal. Can

Cost of 25 gal. ready mixed cement at $1.50 per gal.		$37.50
Cost of 5 gal. Can Booth's Concentrated Engravers' Rubber Cement	$7.50	
Mixed (4 to 1) with 20 gal. Benzol at 40c per gal.	8.00	15.50
A saving of		$22.00

●

Booth's Green Keyboard Rolls



Corrugated or Plain, $1.20 per pair; $6.60 per dozen

We have many new customers throughout the country for these reliably compounded rolls. Especially good for cold keyboards. Constant diameter and lasting resiliency have brought us many repeat orders.

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364 Rockefeller Bldg. Cleveland, Ohio

M-H System of Photo-Imposing

Advanced Contribution to Offset Plate-Making Art — Type and Halftone by Double Exposure in Register Chase

By FRANK O. SULLIVAN

IT HAS been the writer's privilege to see and examine the great majority of developments in the lithographing field, since the installation of the first offset press in 1906.

In this industry we first had to have the press—the press with a continuous rotary motion, every revolution of the cylinders giving out a printed sheet. To Ira Washington Rubel we are indebted for that invention. Then to Harris, Potter, Hoe and Miehle, the industry is indebted for the continued development and perfection of the present offset presses.

Then came the crying need for more economical and accurate methods of preparing the press plate for the press —methods that would be a decided improvement over the hand-transfer method and the use of wooden vacuum printing frames. William C. Huebner blazed this trail by pioneering in the development of the photo-mechanical step and

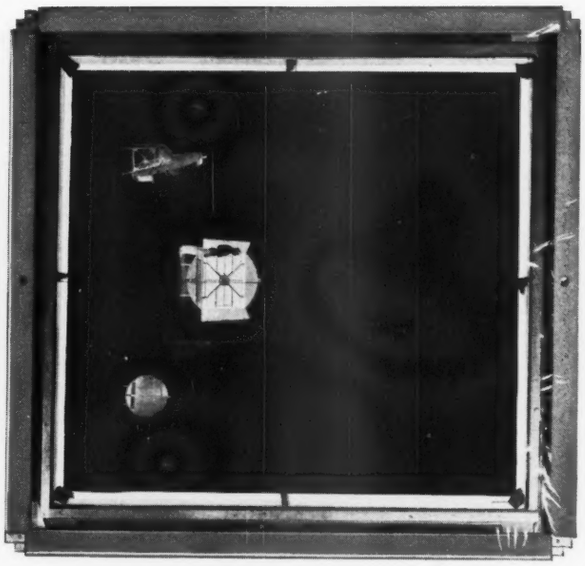


Fig. 1.—Monotype-Huebner Offset Process Exposure Register Chase, showing mask held in position by tape patches to permit exposure of the halftones on the press plate. The type area of the plate under the opaque paper mask remains sensitive to light to receive the type images. After the halftone exposure has been made, the type area mask will be removed and the halftone area which has just been exposed will be masked as shown in Fig. 2, while the type area is being exposed.

repeat machine. Later came the Directoplate, the Ogden and the Wesel-Bassist machines. But one great need—that of the printer just entering the offset field—was overlooked. That is, until the Lanston Monotype Machine Company took over the Huebner and Directoplate patents, and established Wm. C. Huebner as the director of the laboratory and bureau of research.

Through this combination there has been developed the M-H All-Metal Layout and Registering Table, and the M-H All-Metal Registering Vacuum Frame.

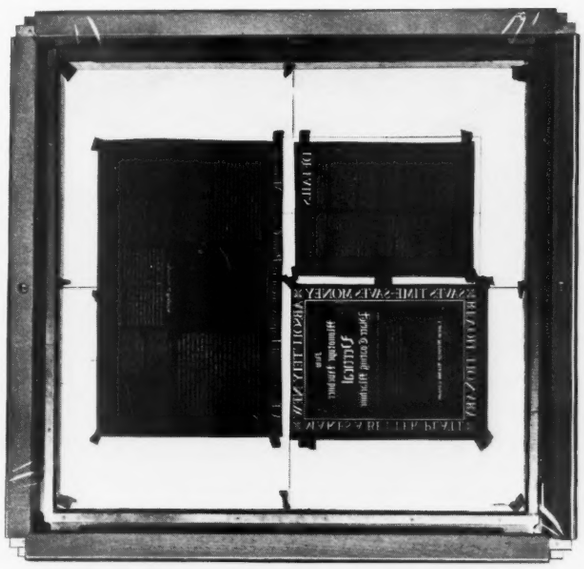


Fig. 2.—Monotype-Huebner Offset Process Double Exposure Register Chase in which the halftone areas (shown in Fig. 1) have been masked out. The type matter negatives (masked out in Fig.1) are registered and taped for the second exposure of the press plate.

It is claimed these units of all-metal construction are as accurate as skilled mechanics and machinery can make them. They will prove a boon to the printer using offset presses, or the printer contemplating entrance into the offset field. His work in preparing press plates will be much easier and more accurate than has been possible hitherto.

To quote from a broadside, "Photo Imposing," just received from the Lanston Monotype Company:

> "A layout table is an essential part of every plate-making department using a vacuum printing frame for transferring negatives, or positives, to offset press plates. Intelligent consideration of offset plate-making equipment must start with a very clear realization of this fundamental fact: an offset press plate once made cannot be corrected; if images be incorrectly placed on the plate, if the plate is too weak to print the required edition, a new plate must be made and usually the offset press stands idle while a new plate is being rushed through.
>
> "Upon the accuracy with which plate layouts are made depends the accuracy of the finished plates. Too many printers seriously handicap themselves in starting offset work with crude home-made layout tables, overlooking entirely the fact that, with means for making accurate layouts, a very large amount of two-color work can be done cheaper and quicker with a vacuum printing frame than with a more costly photocomposing machine."

Aside from its accuracy, the M-H Layout Table is also valuable in preparing copy for the camera, for placing accurate line-up and centering register marks for the squaring of margins. It insures precision and saves time. It is equipped with a steel T square, a ruling pen, and a paper cutter with renewable blade. The latter is used for trimming negatives and for the cutting of masking paper. Nothing has been overlooked in making this unit a perfect piece of equipment for the beginner.

The M-H All-Metal Vacuum Printing Frame is, without question one of the most valuable pieces of equipment offered to the industry since the invention of the offset press. The simplest work can be done on this vacuum frame, as well as two-color work with accuracy and register. The use of water white glass in the M-H frame is a great time saver. It shortens the exposure time and gives 40% more of the actinic rays from the arc light. An added advantage of this unit is the positioning of the arc light during exposure. It is always the same constant distance from the press plate. Consequently there is no variation in light rays as each form is exposed.

The use of registering frames which accurately fit both the Layout Table and the Vacuum Frame, is something hitherto unknown until developed in this equipment.

In the accompanying illustrations are shown two of the registering chases all ready for exposure to the press plate. Fig. 1 shows the masking out of the type matter for the exposure of halftones, and Fig. 2 shows the type negatives with halftones masked and ready for exposure. The same method is used where either the type, or type headings are to be printed in one color, and the balance in another color—two exposures in the M-H Frame, but always in absolute register.

Space here will not admit of giving a more detailed account of this equipment, but the printer who is contemplating offset may secure a copy from the Lanston Monotype Machine Co., or through *Printing* EQUIPMENT *Engineer.*

View of M-H All-Metal Registering Vacuum Frame in position for the photographic transfer of the images to the press plate by the printing lamp. A tie or solid connection between frame and lamp insures that the lamp is always positioned a constant distance from the press plate and is centered on the plate during exposure.

Ideal "Line of Impression"

On Newspaper Rotary Presses Should Be Considered As Being Exactly at Gear Pitch Line—How to Maintain It

By K. G. LAYCOCK*

This is K. G. (Doc) Laycock, whom our readers will be pleased to meet. Many newspaper pressmen have struggled with the pitch line or "line of impression" problem on printing presses. The actual impressional surface of cylinder blankets changes progressively, according to the amount of use, as is well known to the pressman. Just how to determine the proper relative surface travel with the plate cylinder may be understood easily by reading K. G. Laycock's informative article. No doubt other methods of arriving at a solution have been evolved, but we are sure Mr. Laycock's suggestive data will be interesting.—EDITOR.

WRITING in the August number of *Printing* EQUIPMENT *Engineer,* L. K. Johnson of the Government Printing Office, Washington, D. C., gives some of the most pertinent and well-defined illustrations relative to "Line of Impression" and gear pitch line as applied to flatbed letterpress printing that has so far come to this writer's attention.

Mr. Johnson rightly places the "Line of Impression" in letterpress printing, somewhere below the level of the type face, explaining this as the cause of the fattening of printing faces in the finished product. Although we cannot make use of his method for the correction of this evil on newspaper presses, we most certainly can give more constructive thought to the construction and thickness of the impression packing materials.

I often wonder how many web pressmen actually do take an occasional leaf from the commercial printer's notebook on such topics and attempt to apply the principles to their own specific problems. In this matter of attempting to more nearly coordinate our "line of impression" on newspaper presses with the pitch line of the printing cylinder gears, it seems highly probably that we can well heed the lesson taught by men well versed in the art of producing the finer grades of printed matter.

LINE OF IMPRESSION AT GEAR PITCH LINE

Theoretically, at least, we should consider our ideal line of impression as being exactly at our gear pitch line. This brings up the thought: How much impression is absorbed by the paper being forced down around the characters in the plate and how much indentation into the blanket itself?

While acting as the two principal objects of the act of printing, it seems quite reasonable to assume that the plate on one cylinder and the impression packing on the other can be classed as more or less actually meshing together as miniature gear teeth, rather than the more generally accepted idea of the one merely indenting, impression-deep, into the other.

By way of example, let us assume that in actual practice we use an average of 0.016 in. impression with a certain type of blanket. If our line of impression falls to a depth 0.008 in. below the face of the plate and is forced the other 0.008 in. into the blanket, then we will have to add 0.008 in. to the thickness of the standard plate and pack our impression cylinder just 0.008 in. above pitch line in order that we may exactly synchronize the action and surface travel of the two.

The writer does not contend that such seemingly extreme action as this should be followed to the letter. He advances the idea more as a basis for experiment and as a warning against the tearing and distorting action that actually is created by enlarging the impression cylinder beyond a point where good printing and proper sheet travel can be obtained.

THE BLANKET ELEMENT

In years past, more than likely we have accepted the press builders' original specifications as to the thickness of blankets which we shall use. We have secured blankets of many varying degrees of density—some soft, some hard, some just middlin'—all of that same, or possibly of even greater thickness, and we have expected from each the same degree of satisfactory service. Perhaps the blanket manufacturers became somewhat lax in the matter of thickness, too. Sometimes we were installing blankets that were anywhere from 0.004 in. to as much as 0.012 in. too thick for even safe operation. When the latter figure was reached we more than likely had one cyclinder wrap after another. If the cylinder wraps did not damage the press, they quite likely accomplished some good by ironing the blankets down to a point that would allow somewhere near safe running. Soon the face of these blankets looked as though they had gone through a battle. Well, they had. One might say they had been chasing along over the face of plates with which they could not keep step and as a consequence they got all scratched up. By the time they were down in thickness to where they could keep in step, it seems a miracle that any life remained.

Less than a year ago the writer received a telephone call from a pressman in another city and the conversation went about as follows:

"Hello, Doc. How are you?"

"Just fine, Jim. How are you?"

"Oh, I'm all right but I just put on new blankets and I can't run."

"What are your symptoms, Jim?"

"Cylinder wraps, one after another."

"Did you check the blankets for thickness?"

"Yes, and they seemed to check O. K."

"Maybe your checking wasn't very accurate. The next time you check blankets, take two pieces of steel about an eighth of an inch thick and, say, three or four inches long. Place one piece of steel on each side of the blanket, then take barely a 'feel' reading of your micrometer. Subtract the thickness of the steel and you have an accurate check on blanket thickness."

"What do you show between cylinders?"

"0.584 in."

"0.584 in.! If your gears were on pitch line you would show around 0.563 in. Seems like you put on plenty of packing."

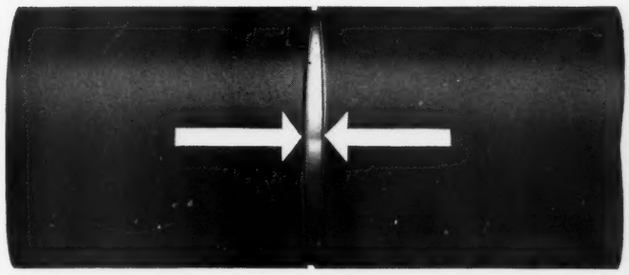
Continued on page 92

*Pressroom Foreman, Wilkes-Barre (Pa.) *Times-Leader.*

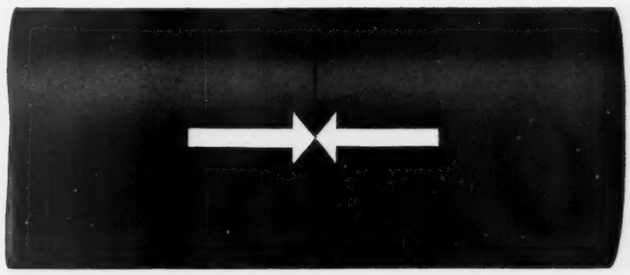
DO YOUR PRESS BLANKETS HAVE
too much s-t-r-e-t-c-h?

IF SO YOU WILL BE INTERESTED IN ONE OF THE IMPORTANT FEATURES OF

VULCAN BLANKETS



THE OLD WAY
Excessive Stretch and Spread



THE VULCAN WAY
Permanently Perfect Fit

DID you ever have a press blanket spread at the center — up to or even beyond the type-page margin?

It often happens — *but not with Vulcan Blankets.*

Sometimes we hear pressmen tell of the various ways in which they punch new blankets. Many of them have developed unique and ingenious methods of lining up the pin holes. These tricks are sometimes necessary to prevent blankets from shifting or spreading — *but not with Vulcan Blankets.*

When you buy Vulcan Blankets, punch the holes on a line parallel with the end. You will find that because they are accurately cut (special equipment), and free from excessive stretch (eternal vigilance), Vulcan Blankets will butt up together perfectly and stay that way.

Avoid unnecessary trouble: Use Vulcan Press Blankets. At the same time you will save money and get better presswork.

Another Suggestion: Investigate Vulcan Rubber Rollers. They are made to the same exacting standards that characterize Vulcan Blankets, under the same constant laboratory supervision.

At the left, a chemist in the Vulcan Laboratory testing a piece of Vulcan Blanket for *stretch*. The one-inch test sample is carefully measured — length, width, and thickness — before and after being subjected to fifty pounds' pull for an hour. Every roll of Vulcan felt, surface material and finished blanket is tested in this way. Additional measurements are made one hour after the weights are removed, in order to record any permanent stretch or set. Fixed standards of freedom from stretch are rigidly maintained.

VULCAN PROOFING COMPANY
FIRST AVENUE AND FIFTY-EIGHTH STREET, BROOKLYN, N. Y.
Pacific Coast: Ralph Leber Co., Inc., 426 Polson Building, Seattle, Wash.

Kork-O-Tan
REG. U. S. PAT. OFF.

BOTTOM PRESS BLANKETS

▼

ON HUNDREDS OF NEWSPAPER PRESSES
ARE PROVING THEIR

ECONOMY

THROUGH THEIR

LONG LIFE and
LOW FIRST COST

▼

Kork-O-Tan Bottom Press Blankets are running in hundreds of the largest and finest pressrooms in the country. We will gladly show you a long list of outstanding newspapers who have RE-ORDERED again and again. Make a test in your pressroom *at our expense* for remember, Kork-O-Tans are

Guaranteed to give Satisfaction
or Money Refunded

Kork-O-Tan
REG. U. S. PAT. OFF.
BOTTOM PRESS BLANKETS
are

RESILIENT — Yet firm
TOUGH — Yet pliable
OIL-RESISTANT
STRETCHLESS—Do not narrow or thin down.
EVEN GAUGE THROUGHOUT
LOW FIRST COST
LONG LIFE

▼

BEHR-MANNING
TROY, N. Y.
Established 1872

"Yes, it does look that way, but what am I going to do? I can't throw these blankets away and buy news ones, and I can't run well with them the way they are."

"Well, pull up on your first impression and ease off on your second as much as you can. Then run until you stretch out and beat down some of this excess thickness."

That's the old remedy. It never can be very successful, but it is surprising how many actually do that same thing year after year. Perhaps not all to that same major degree, but few there are who have not had some such experience.

IMPRESSION CYLINDER DRAG

Another pressman uses two corks with a draw sheet. His draw sheets pull off the pins. Every so often he loses one. The same action that grinds and stretches felt on an impression cylinder most certainly will take advantage of the weakest point in a draw sheet if the thickness of packing is such that a constant drag is placed thereon.

Now, how can we correct all this? How can we tell when our cylinder gears are in proper mesh and just where is this pitch line?

WORKING ACCORDING TO AVERAGE PLATE DIMENSION

Inasmuch as we probably will be indefinitely confronted with the problem of doing our best with plates that vary from day to day, or even from one plate to another in facial printing qualities as well as varying in printing levels, it is quite unlikely that we ever will nearly approach perfect printing on newspaper presses. Perhaps, the best we can hope for is nearly perfect reproduction of that which we find in the plate.

Therefore, in considering a packing material for our impression cylinders, our choice should be influenced by the average plate that is placed at our disposal. If our plates are of a high standard and we like cork for packing, we can use cork.

If the plate standard is not so high, perhaps we will do better with surfaced felt, with under-packing either of cork or rubber. Of the surfaced felt blankets on the market today, the writer has had actual experience with four. Each has its own good points, so let us decide on one, or maybe two. Two is used here advisedly because at the present time the writer is operating an octuple press with one make of blanket on the first impression cylinders and blankets from another manufacturer on the second. On this press we have many runs of two colors and black, all colors in close register. By means of a switch-back the two colors are printed on one of the regular second impression cylinders. This impression is equipped with a divided color fountain and this is the only color equipment that we have. Double-truck ads are printed in two colors and black in the same way. On the same second impression cylinder the sheet is led under the folder after printing, turned up-side-down and delivered as the bottom lead of a product. Products run up to forty-eight pages.

Anyhow, let us assume that we have decided on a felt blanket of a standard make. The thickness must coincide with our pitch line. If you are not quite sure on this point of pitch line you may either write to your press builder for the information or you may figure it out for yourself.

DETERMINING PITCH LINE

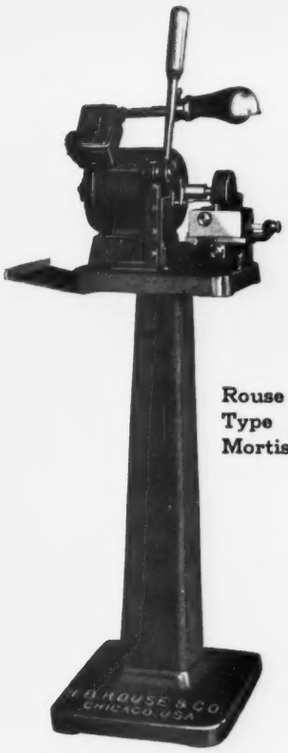
Measure, accurately, the circumference of the bare plate cylinder at a point where there are no openings. Divide the result by 6.2832, and add the thickness of a standard plate. (If your plates are seven-sixteenths, the thickness in thousandths is 0.4375 in.) The result obtained will equal the radius of the plated plate-cylinder. The face of the plate at the outside end of this radius will be exactly in line with the pitch line of the plate-cylinder gear.

Then find the radius of the bare impression cylinder in the same way. From the plated plate-cylinder radius, subtract

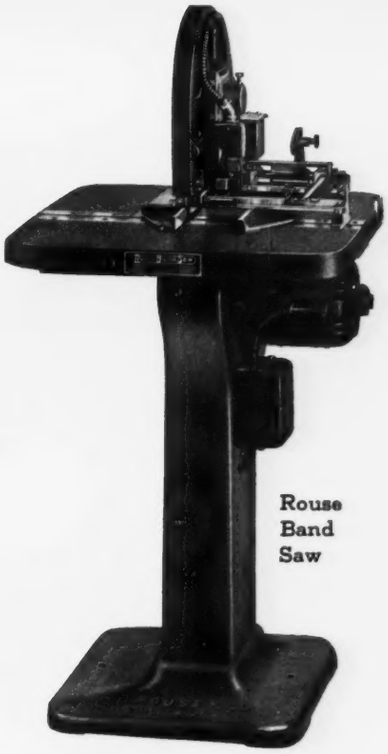
Continued on page 125

ROUSE

Time-Savers for the Composing Room



Rouse Type Mortiser



Rouse Band Saw

WHERE seconds count, Rouse equipment is first selection. Where fine typography is of prime importance Rouse equipment is essential.

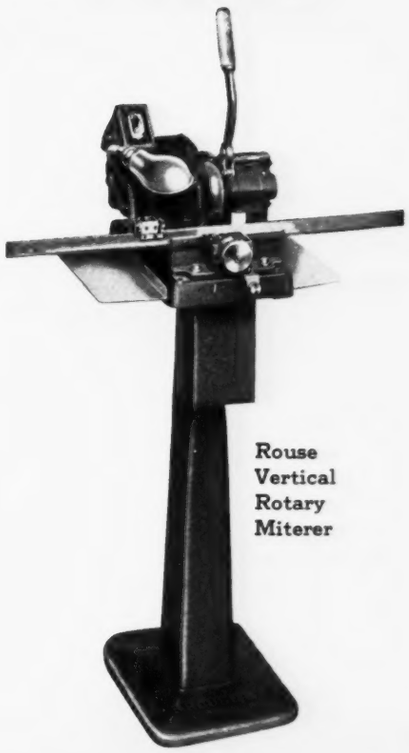
Those who know the three Rouse machines illustrated here, place them ahead of the times in composing room production, both for speed and quality of work. Plants not equipped with these machines meet a competitive production cost hurdle hard to overcome.

The Rouse Band Saw is new in method. It is indispensable in the newspaper ad alley, or the large commercial composing room. It will automatically select and cut to variable lengths a full galley of slugs in 35 seconds. Slugs are fed as a straight galley, without adjustment. Slugs cut are accurate to length.

The Rouse Vertical Rotary Miterer has the endorsement of leading printers and publishers throughout the country. Priced for large or small plants. Simple, easy and safe to operate. Cuts accurately a complete miter at a single operation without previous cutting of strip to length. Insures perfect corners. Reduces hours to minutes. Brings a world of interesting border combinations to your compositors.

The Rouse Type Mortiser is valuable and necessary equipment for the fine typographer. Facilitates perfect spacing of awkward letter combinations such as those formed by T, A, V, Y, W and similar characters. Type to be mortised is clamped to a slide, which can be readily adjusted by points and locked in the desired position. Mortises are cut accurately to point measure. Does away with dangerous saw mortising and the tedious inaccuracies of the file.

Circulars describing Rouse machines and tools will be sent at your request. They are an education in efficient production methods. Your request for information does not obligate you in any way.



Rouse Vertical Rotary Miterer

Send for circulars on Lead and Rule Cutters . . . . Hand Mitering Machines . . . . Composing Sticks . . . . Type Gauges . . . . Composing and Makeup Rules . . . . Newspaper Files and File Racks . . . . Newspaper Base . . . . Page Frames and Page Frame Cabinet . . . . Sennett Positive Assembler.

H. B. ROUSE & COMPANY

2216 Ward St., Chicago

THANK YOU, MR. STUCK

San Francisco, Calif., September 21, 1934.

Printing EQUIPMENT *Engineer,*
Cleveland, Ohio.

Dear Sirs:—Each month, after reading *Printing* EQUIPMENT *Engineer,* I loan it, first, to our linotype machinist, then if any articles are of interest to them, to our pressroom and, or, stereotype room foreman; then to the composing room foreman of another plant, and he in turn loans it to his machinist, then it is returned to me and I keep the file.

A few months ago *Printing* EQUIPMENT *Engineer* carried quite an extensive article on "bleed" pages, but after the various borrowings, I failed to get that particular issue back and am now very much in need of information regarding the production of "bleed" pages.

Would you please send me another copy of that issue as well as any other information at hand regarding this particular problem?

We have a Scott Octuple press and Pony Autoplate stereotyping outfit.

Very truly yours,
IRA E. STUCK, *Composing Room Foreman,*
San Francisco Shopping News Co.

Barr Now With Nelson

Frank S. Barr, who is well known through his association with several newspapers in the middle west, but more recently with the Cedar Rapids *Gazette* pressroom, has joined the Nelson Roller Company, Tribune Tower, Chicago, in a sales capacity, it has been announced by Carl W. Nelson.

Books Received

PRACTICAL EVERYDAY CHEMISTRY

The mechanical executive who is inclined toward practical experimentation and simple chemistry will be interested in a new book entitled "Practical Everyday Chemistry." As a reference book, too, it should be particularly useful since its simply written formulae are understandable to the layman as well as the professional. It is modern in context and makes use of many new chemicals and processes discovered recently, up to and including 1934.

In addition to food formulae and other customary subjects, the book contains information on the making of adhesives, alloys, anti-freezes, antiseptics, automobile specialties, bleaches, carbon paper, cements, colors, crayons, disinfectants, drugs, dyeing, emulsions, extracts, fireproofing, fireworks, greases, inks, insecticides, paints, plating, polishes, soaps and cleaners, stain removers, varnishes, and hundreds of other articles, with which most everybody is in daily contact in office, factory, school and home.

Several pages of tables, including conversion of thermometer readings are included.

PRACTICAL EVERYDAY CHEMISTRY, 305 pages, green cloth, price $2.00. The Chemical Formulary, 175 Fifth Ave., New York, N. Y.

Scripps-Howard Supply Moves

The Scripps-Howard Supply Co. has moved from Cincinnati to its new address at 230 Park Ave., New York, N. Y. The address of Col. Wm. M. Day will be 1121 Union Central Bldg., Cincinnati. Any mail after October 18 should be addressed to the New York address.

Salvage Idle Time by Precasting Cross-Ruling and Cross-Spacing Ruleform Material

Lino-Tabler

System offers the simplest, fastest, most flexible and inexpensive method for the satisfactory and economical production of ruleforms and slugcast rule-and-figure tabular pages.

The Lino-Tabler System utilizes the product of all typesetting and casting machines, including separable type. Multiplies ruleforms by recasting, saves press time incalculably.

Submit a proof or two of ruleform work produced in your plant, together with description of your typesetting and casting equipment, and we will advise you of the approximate time required to produce your jobs by the Lino-Tabler method. Of course, this does not incur the slightest obligation. Trade typesetters, ask about our special offer.

CHICAGO LINO-TABLER COMPANY

William C. Hollister, *President*

53 West Jackson Boulevard CHICAGO

6 REASONS

for Installing the

Paasche "No Offset" Process

1. *Protects you against all ink offset or smudging difficulties.*
2. *Eliminates all possible need for slip sheeting on any job.*
3. *Keeps presses from standing idle while ink is being thinned or doctored to prevent ink offset.*
4. *Avoids racking the sheets to prevent ink offset or smudging.*
5. *Permits the finest printing as deep rich tones, delicate lines and half-tone shades are never spoiled by slip sheeting or thinning the inks.*
6. *Saves from $500.00 to over $3,000.00 on every press equipped, depending upon continuous or intermittent use.*

SEND FOR THIS BOOK demonstrating and explaining the Paasche "No Offset" Process. Every printing problem that might cause ink offset or smudging was incorporated in this book. Four colors, metallic ink, over print varnish were used, yet the book was printed at full speed without slip sheeting. Judge the result for yourself. Send for this interesting book today.

YOUR PRESSES — any presses — flat bed, web, cylinder — from the smallest of envelope presses to the largest rotary presses — all can be equipped with the Paasche "No Offset" Process *that pays for itself in less than a year.*
On one press, $2,736.20 was saved in a single year; on another, $3,779.20.

The Remarkable "No Offset" Solution Makes These Results Possible

The Paasche "No Offset" Process is not only suitable for the last color but it is ideal for any number of color runs. Printing over with this process does not interfere with the ink or stock.

By using this process, you can use glossy inks or varnish on your present presses, thereby increasing the profit possibilities of the equipment you now have.

You can over print or spot varnish — use the heaviest of glossy or metallic inks — and run your press at normal press speed without danger of ink offset or smudging, without the sheets sticking, without marring the surface.

Investigate the Results Obtained

Get the facts that were responsible for over 75 plants installing the Paasche "No Offset" Process. One concern, starting with one unit, now has eighteen presses equipped.

Write for the book which lays the results of the Paasche "No Offset" Process before your eyes, and gives you the figure-fact details of this revolutionary invention. Investigate all it can do.

Paasche Airbrush Co.
"NO OFFSET" DIVISION
1909-31 DIVERSEY PARKWAY CHICAGO, ILLINOIS

New Equipment For Printer

Static Eliminator, Immersion Metal-Melting Device, Scorcher, Router, Linotype Knife Block, Quad Base

By Staff Writer

The new Midget Static Eliminator, made by Simcoe Mfg. Co., 430 Race St., Philadelphia, Pa., is a new development of the Simcoe engineers and was conceived to fill the need for a static eliminator that would fit small and intricate packaging, wrapping, folding, bag, envelope and other machinery. It is of flexible design so that it can be applied to cover one point, a row of points in a straight line, a row of points in a circle, or points scattered over the machine and in inaccessible places.

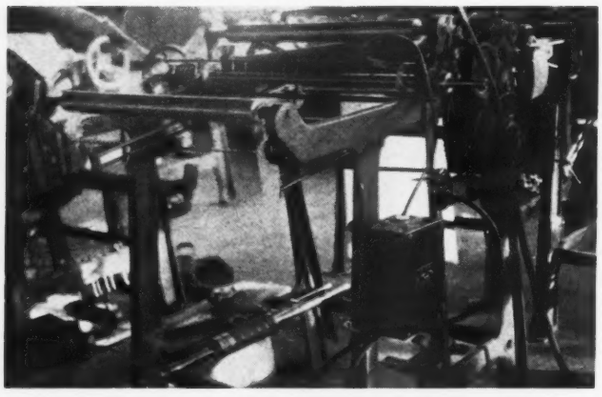


Illustration shows Simcoe Static Eliminator installation with Midget Power Unit

In addition to the applications mentioned above, this static eliminator will fit the largest printing presses and the paper-making and converting machines.

The Midget Power Unit which consists of a transformer and neutra-stat is housed in an 8 in. by 8 in. by 4 in. iron box. It steps up the current from electric power and converts it into a neutralizing current by means of the neutra-stat. The prepared current is then distributed by insulated cables to the Midget Bars. The Power Unit is usually mounted on the frame of the machine and the cables feeding the bar are carried along the side frame on special insulators.

The Midget Bars have very flexible, but unbreakable projecting points. These points are located approximately ¾ in. away from the work and produce a constantly reversing static field of high intensity in the path of the material to be discharged.

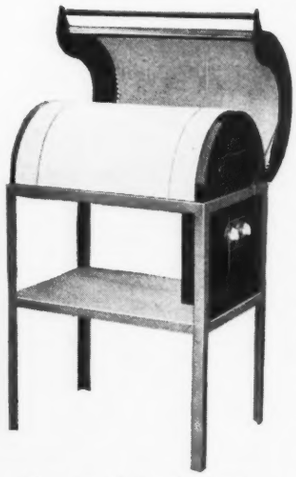
The Midget Bars are usually ¼ in. diam., but can be made smaller if necessary. The distance the points project from the bars varies with the requirements from ¼ in. to 2 in. Adjustable fibre insulating supports may be attached to the frame of the machine, to a fixed shaft, or to any metal bracket to hold the bars in place.

Immersion Metal Melting for Line-Casting Pots

Announcement has been made by the C. M. Kemp Manufacturing Company, 405 East Oliver Street, Baltimore, Md., of a new gas Immersion Metal Melting equipment for installation on line-composing machines. The immersion unit is submerged directly in the pot crucible and is of suitable shape to encircle the well. Gas is pre-mixed and delivered through piping under controlled pressure by the motor-driven generator and the Kemp Industrial Carburetor to the immersion burner unit.

A new type mouthpiece burner emits a ribbon flame of greater intensity at each side than at the center of the mouthpiece. Two adjustable thermostats control individually the temperature of the metal in the pot and the pot mouthpiece.

Improved Model Speed Electric Scorcher



New Model Speed Electric Scorcher with cover raised.

An improved model of the curved Speed Electric Scorcher has just been placed upon the market by Speed Products, Inc., 437 E. 106th St., Cleveland, Ohio. This scorcher is easy to operate, is very reliable due to its positive action and is absolutely "fool proof."

The asbestos mat on the hot bed of the scorcher is made with a slight depression between the two ends as a protection against mat crushing, column concaving and buckle forming.

The cover of this model has a flexible, self-fitting, floating cover which it is claimed assures a perfect fit at all times. This cover consists of an asbestos cloth and screen, floated inside a rigid outer metal cover which is slightly larger to allow the floating cover to form perfectly.

This improved model has four-heat manual control. The heating elements have a maximum input of 3000 watts, balanced for even distribution, and consume no more current than necessary for the amount of input required.

The hot bed of this scorcher can be instantly removed to make the heating elements readily accessible at all times.

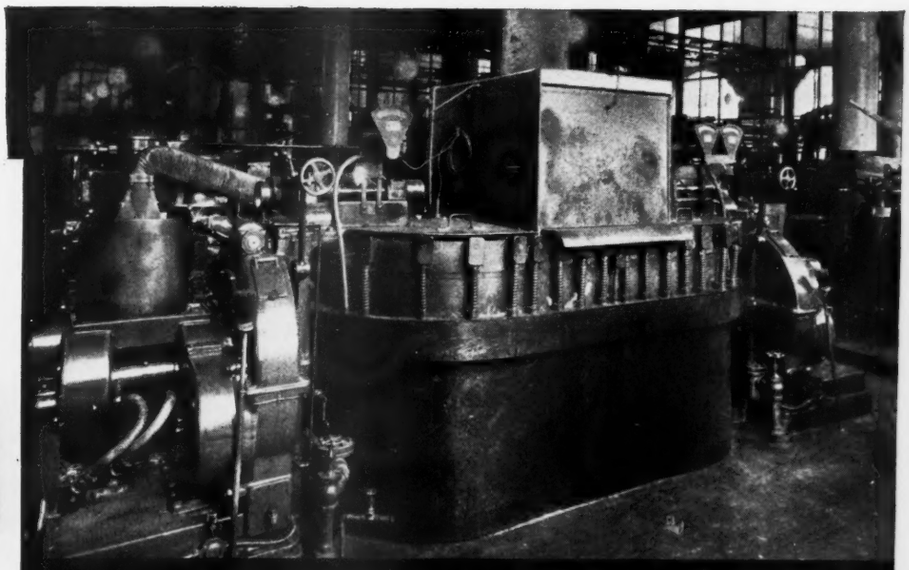
Speed Products, Inc., also make a flat-bed scorcher and a standard model of curved bed scorcher. A folder describing all models will be sent on request.

Industrial Pyrometers of the Expansion Type

The Acieries d'Imphy, makers of Chevenard Dilatometers, are placing on the market in the United States and Canada, through The R. Y. Ferner Co., Investment Building, Washington, D. C., a line of industrial pyrometers designed by Dr. Chevenard. These make use of the differences of expansion of a rod of Pyros and the fused silica tube in which the Pyros rod is contained. Pyros is an alloy developed to withstand repeated cycles of heating to 2000° F. and cooling without changing its characteristics or showing appreciable oxidation.

Continued on page 98

PROFIT with ELECTRIC HEAT



Electrically heated stereotype furnace at the *Detroit News* plant

. . . SLIP SOME G-E HEATING UNITS INTO YOUR PRINTING MACHINERY

Scores of newspapers have electrified their stereotype furnaces with these G-E cast-in immersion units. Simple and highly efficient, they can be used with any type of furnace

The G-E cartridge-type unit is designed especially for printing equipment, such as the Ludlow Elrod, which requires a handful of concentrated heat

The G-E strip heater is used for scorchers and warming tables

G-E cast-in immersion-type heating units for electrotype-metal melting are manufactured in various shapes, to fit every type of furnace

THESE electric units make it easy for you to enjoy the benefits of electric heat. Simply slip them into your present fuel-fired equipment, connect them, touch a button — and you have electric heat.

Electric heat is heat at its best — the modern heat that improves quality — reduces over-all operating costs — brings cleanliness, greater safety, and comfort to the casting and typesetting rooms — releases operators for other work — speeds up production — and identifies the user as a progressive, forward-looking printer or publisher.

With these and similar General Electric units, you can have electric heat in your stereotype furnaces, electrotype furnaces, flat- and pig-casting furnaces, scorchers, plate whirlers, Intertype and Monotype machines, Monarch Monometers, Ludlow Elrods, and in practically every other device that utilizes heat.

Get the advantages of electric heat for your plant now. General Electric has installed electric heat in some of the country's largest plants over a week end. A trained, experienced heating specialist is at your service in the G-E office nearest you. General Electric Company, Schenectady, N. Y.

Electrically heated electrotype furnace in the plant of the Lawrence Publishing Company, Cleveland, O.

160-8

GENERAL ELECTRIC

. . Equipment

(Continued from page 96)

The differential expansion of the Pyros and the silica is communicated through a silica push rod to a lever of Invar which carries a pointer moving over a scale graduated to 10 or 20-deg. intervals, according to the range of the instrument. The instruments are supplied in three ranges—up to 570, 1100 and 1830° F.

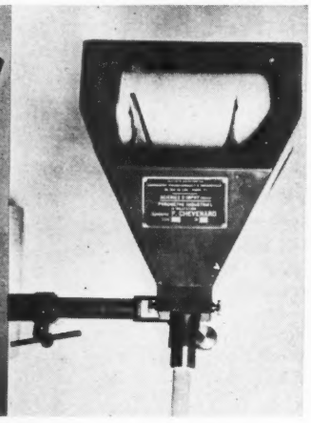
The instruments are supplied in five types. Types A and B are dial instruments, Type A being merely an indicating instrument while Type B not only indicates the temperatures by a pointer moving over a scale but also has two arms pivoted in the same axis as the pointer. One of these is set at the desired temperature and as the temperature of the furnace increases the pointer approaches and makes electrical contact with it to operate a relay and open a mercury switch, cutting off the heating current. Or the relay may be designed to partially close a gas or oil line. When the contact between the arm and pointer is broken, the relay operates to turn on the heat again.

The pointer is fitted with two contact points, the second of which will act soon after the first, if the first fails to break the heating circuit. If the heat should not be turned on for some reason after the contact between the pointer and arm is broken, the pointer continues to move towards lower temperatures on the scale until it comes in contact with the other arm, set at whatever temperature is desirable, and through it gives an alarm either by bell or flashing of a light, to warn that the heat has not been turned on. If it is desirable to operate the heating circuit by hand, the two arms can be connected to give different alarms as indicators to turn the heat on or off.

The other three types are fitted with a revolving drum driven by clockwork, on which in Type C the temperature is merely recorded. In Type E the temperature is similarly recorded but the instrument is also equipped with two arms like Type B by which the temperature can be held at a certain limit, with the giving of an alarm if it falls too low.

With Type F, a desired cycle of temperature can be imposed on the furnace or bath which is being controlled.

Types A *and* B *Chevenard Pyrometers*



Revolving Drum Type Chevenard Pyrometer

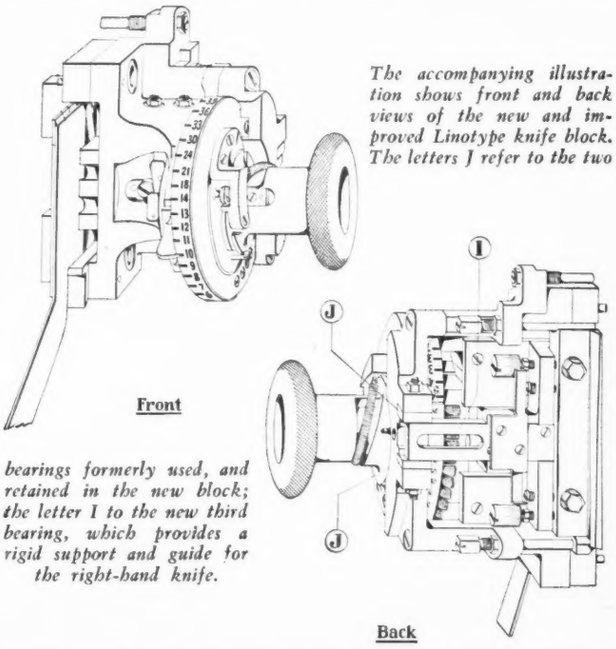
This is accomplished by securing on the drum a thin strip of silver with which the point on the needle makes contact to open and close the heating circuit. When the pointer makes contact with the silver strip the relay breaks the circuit to the furnace but when, by the revolving of the drum or the cooling of the furnace, the pointer leaves the silver strip, the circuit to the relay is broken and the mercury switch is closed to increase the heat. A rheostat can be used in the heating circuit to adjust the current to give just enough current to maintain the highest temperature desired.

The fused silica tube in these pyrometers has very small expansion and thermal conductivity, rigidity at high temperatures and translucidity, permitting rapid heating of the pyros standard by radiation. Though fragile in appearance the tubes are sufficiently strong for their manipulation without difficulty. They can be heated very rapidly without harm to the instrument.

New Linotype Knife Block

Mergenthaler announces a new and improved knife block with a range from 5 to 45 point and with a third bearing which provides a rigid support and guide for the right-hand knife.

"This third bearing," says C. H. Griffith, assistant to the president of the Linotype organization, "which is centrally located in the block and which cooperates with top and bottom bearings, makes for accuracy and rigidity in setting by assuring an exact parallel movement of the right-hand knife throughout its length on all body sizes and measures. Once set, the block stays set—exactly as the operator or machinist wants it.



The accompanying illustration shows front and back views of the new and improved Linotype knife block. The letters J refer to the two bearings formerly used, and retained in the new block; the letter I to the new third bearing, which provides a rigid support and guide for the right-hand knife.

"The new block, which also retains the cam feature, is operated by the turning of a knurled knob, with no lever to get in the operator's way. The mechanism is noiseless, and is easily operated with one hand.

"As before, the various point-size adjustments can be individually set for various degrees of slug trimming without in any way affecting the other point size adjustments.

"Other features of the new block are a larger and more prominent point scale, with the various points indicated in 24-point figures, and an improved pointer that makes for speedy and positive setting of the scale.

"The new block is now standard equipment on all new Linotypes."

M. & L. Quadhole Patent Base

The M. & L. Type Foundry, 4001 Ravenswood Ave., Chicago, Ill., has announced to the trade a new Quadhole Base cast in units 36 points square from extra hard foundry metal.

Continued on page 100

CLINE ELECTRIC MFG. CO.

MORE THAN A QUARTER CENTURY OF SERVICE TO THE PRINTING AND PUBLISHING INDUSTRY

WESTERN OFFICE
CROCKER FIRST NAT'L. BANK BLDG.
SAN FRANCISCO, CALIFORNIA

CLINE SYSTEM

EASTERN OFFICE
220 EAST 42nd St.
NEW YORK CITY

MAIN OFFICE: 211 WEST WACKER DRIVE
CHICAGO, ILLINOIS

A COMPREHENSIVE SPECIALIZED ELECTRICAL SERVICE TO THE PUBLISHER

CLINE SYSTEM UNIT TYPE PRESS DRIVE

Patented and Patents Applied For

An Individual Motor Drives Each Unit and Each Folder in Any Combination

No Press Drive Shaft—No Back Lash

Perfect Acceleration

Perfect Slow Down

Perfect Automatic Brake

CLINE HIGH SPEED PASTERS, REELS and AUTOMATIC TENSION

Patented and Patents Applied For

Used in Prominent Plants

No Running Belts—Plenty of Room

Tension Adjustable from Press Room

Quick Roll Stop from High Speed

CLINE SYSTEM UNIT TYPE NEWSPAPER PRESS DRIVES and TENSIONS

Originated, Patented and Perfected by Cline

For over thirty years the Cline Electric Mfg. Co. have been furnishing electrical equipment, including Standard Double Motor Drives and Automatic Controllers and accessories for newspaper presses. For more than ten years they have been furnishing reels with tensions arranged to make flying pasters at reduced speed of the press, and have therefore been in a position to coordinate paper feeding devices with press control and make layouts of such coordinated equipments to give the greatest possible flexibility of press combinations as well as operation. Cline engineers have therefore had experience in a great number of plants. This, together with the standardized Cline equipment, has resulted in publishers, engineers, architects and press manufacturers recognizing that the engineering work of this service is a very important factor.

The coordination between the reels with automatic tension for pasters for high-speed presses, together with the Cline Unit Drive, gives flexibility of press combinations in a most efficient manner, and should interest any prospective purchaser of presses.

CLINE DOUBLE MOTOR DRIVES FOR MAGAZINE AND DECKER TYPE NEWSPAPER PRESSES

The Cline System is the Most Logical for Efficient Operation and Control of the Modern Newspaper Plant

THE CLINE SYSTEM INCLUDES

Unit Press Drive and Control
Double Motor Drive and Control
Magazine Type Single Motor Control
Special Color Press Control
Stereotype Motor Equipment
Totalizing Counter
Cline Reels and Automatic Electric Tension
Cline High Speed Pasters
Paper Roll Core Adapters
Paper Roll Conveyors
Plate Conveyors and Droppers
Typesetting Machine Drives

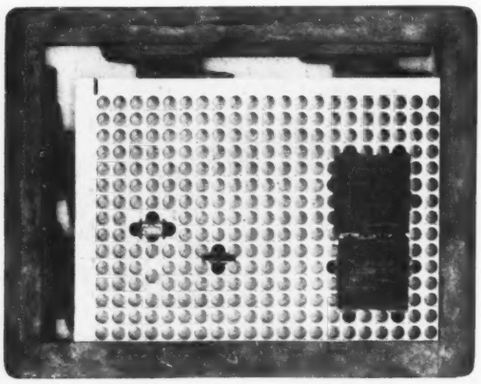
TELL US YOUR PROBLEMS — OUR ENGINEERS HAVE THE EXPERIENCE AND FACILITIES TO SERVE

. . Equipment

(Continued from page 98)

The Quadhole base is of the Toggle Base type, each unit of which has a hole in the center adapted to a toggle-hook. The makers of this new base state that it is so cheap that it hardly pays to wash it. After it has become too dirty for further use it can be turned in on a new supply.

The Type "B" base, 36 point body, is adapted for use with Blatchford hooks and runs 8 sq. in. to the pound. The Type



"S" base, 36 point body, is adapted for use with Sterling hooks and runs 12 sq. in. to the pound.

It is claimed by the makers that the base is cast to micrometer precision and is comparable in strength to the bases made of alloy. Due to its small unit size it will not warp or "grow."

This base can be locked up into any size area or shape, with or without type or line-casting machine matter. It can also be used in conjunction with other bases not ordinarily adapted to very small plates with close margins.

New Hi-Power Router

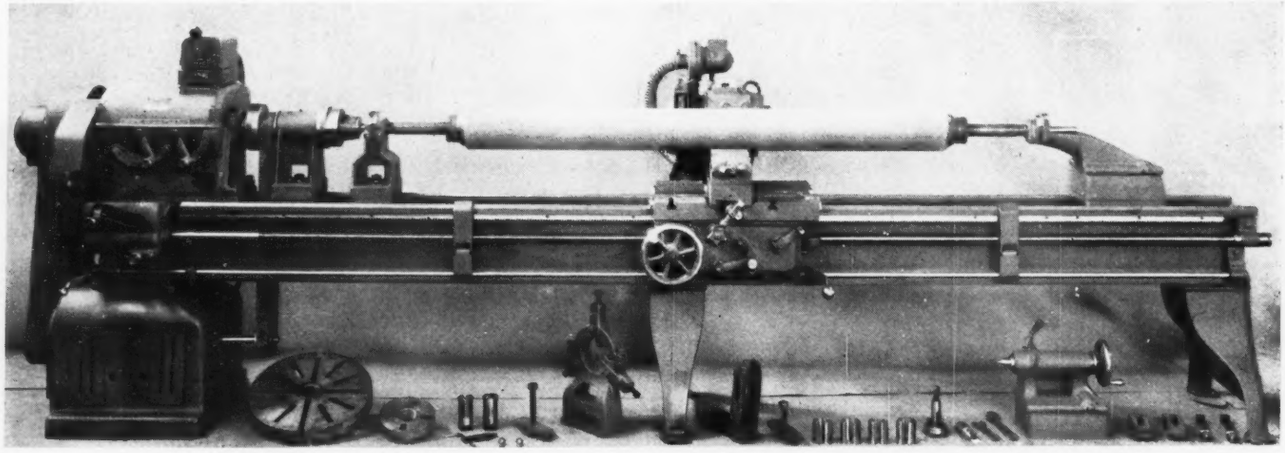
View of Hi-Power Router for Use in Printing Plants

A new portable Hi-Power Router for use in any mechanical department of the printing plant has just been announced by the Chicago Wheel & Mfg. Co., 1101 W. Monroe St., Chicago, Ill.

The Hi-Power Router may be used for any of the following operations: Spotting out undesired portions of photoengravings, electrotypes and stereotypes while locked in a form on the press, or individual cuts can be routed singly as may be selected in any other department; quad lines in line-casting machine composition may be ruoted to a lower depth to prevent smudging in the press, either in the composing room or while the form is locked in the press; correcting tint plates, rules, etc., for register while in color form on the press; the router may be used for making tint blocks, poster borders, date lines, special letters, sales headings, etc., from zinc, wood or linoleum; identifying plates mounted on wood and for marking customer names on

Continued on page 102

SEBASTIAN RUBBER ROLL GRINDING LATHE



● A special design of lathe for grinding the soft rubber rolls used in newspaper presses. This machine has many convenient features and will grind a roll to a perfect finish.

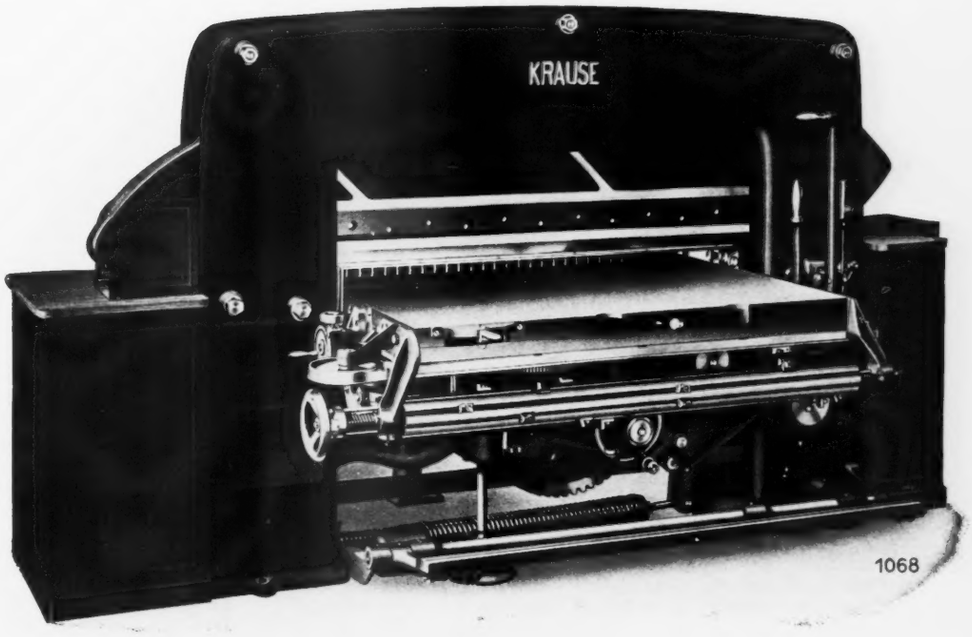
See this machine in use at the plants of the *Cincinnati Enquirer* and the *Philadelphia Record*.

Write us for detailed description and prices.

Sold by:
R. HOE & COMPANY, INC.
138th St. and East River, New York City

Manufactured by:
THE SEBASTIAN LATHE COMPANY
Cincinnati, Ohio, U. S. A.

THE
KRAUSE
FULL
AUTOMATIC
CUTTER



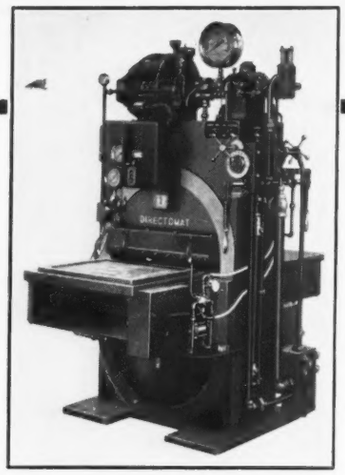
SPEED • ACCURACY • DURABILITY

For labels and gang work of all kinds—the only machine with a feeder (patented) that handles both uniform and irregular spacings entirely automatically; it feeds, clamps cuts—automatically and continuously—to any desired size or sizes and stops only after the last cut has been made. Accomodates piles up to 6 inches in height. May be instantly set for ordinary cutting and is equipped with a power driven back gauge for handling large, heavy piles.

KRAUSE Full Automatic Cutters are in operation throughout the world and have been installed in many prominant houses in the United States. Your cutting department also deserves modernization—let us tell you more about what the KRAUSE will do; for details write to

SALES AND SERVICE ORGANIZATION FOR KRAUSE-BREHMER AND REINHARDT MACHINES. •AUTOMATIC NUMBERING HEADS FOR HIGH SPEED ROTARY AND FLAT BED PRESSES.

KRAUSE 55 VANDAM STREET •
KARL KRAUSE U. S. CORPORATION NEW YORK CITY



The Directomat

Hydraulic Matrix Press

sets a new standard for speed and quality of product

Suitable for both *hot* and *cold* moulding, the DIRECTOMAT produces better and sharper mats, with more uniform casting levels, than can be obtained by matrix rollers. Particularly picture pages and display advertising show a marked improvement, a fact much appreciated by advertisers and the public.

The DIRECTOMAT has the capacity of TWO matrix rollers, while requiring the space of only ONE roller.

The automatic pressure control, hydro-electric heating, suction device, form sliding device, blanket fastening device, and a number of other exclusive features make the DIRECTOMAT supreme in its field. There is nothing else like it — nothing else near it.

The DIRECTOMAT is now successfully in operation in NEW YORK, CHICAGO, and MONTREAL and it will be worth your while to inspect it.

Write for complete particulars.

●

Lake Erie Stereotype Equipment Company

Division of Lake Erie Engineering Corporation, Buffalo, N. Y.
KENMORE STATION, BUFFALO, N. Y.

Selling Agents:

Flexideal Dry Mat Company - 21 West Street, New York
Stahl Newspaper Supply Company, Inc., - - Los Angeles
Toronto Type Foundry Company, Ltd. - - Toronto, Canada

back of stereotype shell casts. Provision is made for the use of a straight-edge and guide when routing down a slug line in a locked form.

The depth of cut may be regulated at will and set permanently if desired. The entire more assembly is mounted on floating springs contained in the alignment tube. This permits instant removal of the router bit from the work by releasing the pressure on the finger grip.

The router base is provided with a celluloid plate to protect the work from routed off chips and to provide a frictionless movement without danger of scratching the work.

The Hi-Power Router universal power unit may be operated either from 110 v., d.c. or a.c., 25 to 60 cycle current. At a small additional charge a 220 v. router can be supplied. The entire router weighs 4 lbs. The router bit speed is 23,000 r.p.m. It has ample power to perform a wide range of work in the printing plant.

With the exception of the spring, an alignment tube, field and armature, the entire construction is of generously proportioned cast aluminum.

Further information may be obtained from the Chicago Wheel & Mfg. Co., 1101 West Monroe St., Chicago, Ill.

New Six-Column Casting Box

A new EasyKaster six-column by 22 in. stereotype casting box has been developed by The Hammond Machinery Builders, 1615 Douglas Ave., Kalamazoo, Mich.

Ease of operation and simplicity of adjustment are features. While the largest cast is 6 column by 22 in., all kinds of smaller plates can be cast for job and commercial printing.

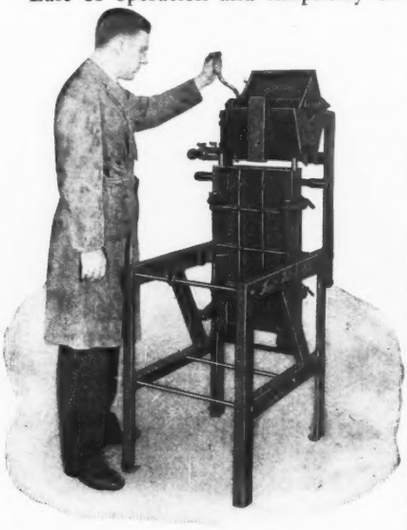


Illustration of Hammond EasyKaster for making stereotype or shell casts.

The frame is of cast iron and steel construction. The casting bed is of cast iron, ribbed to prevent warping, balanced in design, and mounted on large rollers so that it can be easily tilted to pouring position. The casting bed cover is of the same construction, is hinged to the bed, and can be changed automatically from type-high to shell plates. Each of the four corners is provided with heavy self-contained clamps.

The melting pot has a capacity of 250 pounds of metal. It is mounted on trunnions. Being balanced, it is easy to tilt for pouring. Since it is always under the operator's control, metal cannot be poured faster than desired.

New Vice President For Cuneo

Announcement of the appointment of D. E. Plews as vice president of the Cuneo Press, Chicago, has been made. Mr. Plews, for many years has been on the executive and sales staff of the Cuneo organization, and is relinquishing his present duties as sales manager in order to concentrate entirely on special sales work. George W. Rue is succeeding Mr. Plews as sales manager.

For close contact between manufacturer and buyer . . . for quick, economical buying . . . for immediate service . . . FLEXIDEAL DRY MAT COMPANY have opened a new mill in the metropolitan area. In addition to this *convenience* feature, which really is important and unique, the most modern machinery has been installed in the new mill . . . machinery embodying the latest, most improved processes of manufacture. This only after exhaustive research here and abroad. Everything possible has been done by FLEXIDEAL DRY MAT COMPANY to insure incomparable mats and superior service.

Write or wire us immediately for data on FLEX MAT, our newest development in dry mats . . . brings out clearly every detail in halftones and solids. A liberal supply for experimental purposes will be gladly furnished . . . with no obligation whatsoever.

•

FLEXIDEAL DRY MAT COMPANY
21 WEST STREET, NEW YORK, N. Y.

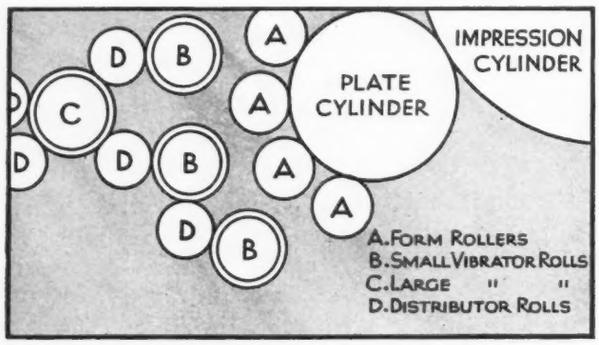
FLEX MAT

"For True Reproduction of Halftones and Solids"

New Form-Rollor Setting Means

A new method of color printing ink distribution regulation without the use of roller gauges has been announced by U. P. M.-Kidder Press Company of Dover, New Hampshire.

Complete accessibility and accuracy is claimed for a new form roller racking-back mechanism on rotary presses. The



By means of a new device the U. P. M.-Kidder Press Co. makes possible the setting of form rollers to the vibrators, or to the plates on the plate cylinder at will on rotary printing presses.

form rollers are racked back with the inking frame to permit the placing of plates on the cylinder in the conventional way and allow the operator to make ready the plates on the plate cyclinder and at the same time to set the form rollers circumferentially to the desired contact with the vibrators.

In the second position shown in the diagram, the inking frame, but not the form rollers, are shown in racked back position. The form rollers remain grouped around and in contact with the plate cylinder. In this position, the operator can set the form rollers radially without disturbing the previous setting made to the vibrators. This not only obviates the necessity of using roller-setting gauges but provides a way for the operator to adjust each form roller with the required contact to obtain the best results.

Nichols Manager at SFC Branch

C. F. Nichols, assistant manager, San Francisco Branch, American Type Founders Sales Corporation, has been appointed manager of the Portland (Ore.) Branch.

The appointment is in keeping with the policy of the company in appointing capable branch salesmen and executives to branch managements. Charlie Nichols is well known to most printers on the Coast.

He has worked in every Department of the Company and specialized mostly in engineering layouts and machinery sales. His 26 years with the Company merits his appointment to this new position.

Correction

In last month's *Printing* EQUIPMENT *Engineer* appeared an article on a method for casting, beveling and printing from sectional imprint stereotype plates as employed in the plant of the Consolidated Press & Printing Co., Cleveland. The article did not give credit to all of the persons concerned in planning and developing the method.

Superintendent Frank B. Gillam, under whose supervision the equipment was constructed, states, in addition to the suggestions made by Mr. Pettit, that Julius Elke, plant engineer, designed and constructed the machines and applied the sectional plate clamping means to the printing press plate cylinder. We are glad to print this information. Application has been made for patents covering the devices.

EDES PHOTO-ENGRAVING

EDES SUPERFINE QUALITY ZINC

ZINC

THE STANDARD FOR MORE THAN 80 YEARS

THE EDES MANUFACTURING CO., PLYMOUTH, MASS.

Uniform texture . . stands up under matrix pressure.

Sales Representatives

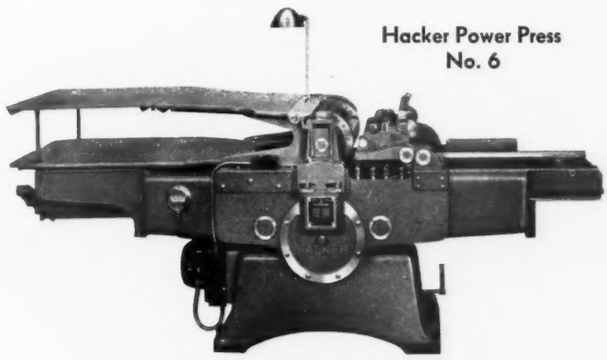
John H. Heimbuecher Metals Co., 514 No. Third St., St. Louis, Mo.
Gazzolo Drug & Chemical Co., 119 So. Green St., Chicago, Ill.
E. H. Walker Supply Co., Printcraft Bldg., Washington, D. C.
Selby Mohr 883 Mission St., San Francisco, Cal.
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909-2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

HACKER MANUFACTURING COMPANY

CHICAGO
320 South Honore Street

NEW YORK
461 Eighth Avenue

DIMENSIONAL ERROR IS THE PRINCIPAL CAUSE OF MAKEREADY



Hacker Power Press
No. 6

Hacker Precision Test Presses

No. 4B, hand, standard 3-roller inker ..... 18″x25″
No. 4C, hand, motor-driven Mono-Inker with fountain . 18″x25″
No. 4D, hand, motor-driven Mono-Inker without fount'n 18″x25″
No. 5A, power, motor-driven 2-roller inker with fountain . 19″x25″
No. 5B, hand, motor-driven 2-roller inker with fountain . 19″x25″
No. 6, power, standard 4-roller inker with fountain .... 19″x25″
No. 7A, power, motor-driven 2-roller inker with fountain . 25″x30″
No. 7B, hand, motor-driven 2-roller inker with fountain . 25″x30″

All Hacker Presses have guaranteed accuracy of impression and guaranteed bearer contact under printing load. They are real precision test presses. They offer a standardized gauge of impression by proofs which disclose the true printing characteristics of plates and type.

Photo-engravers use them extensively in the proofing of original plates. They offer a definite check on the workmanship in the plates. For speed and convenience in this use there is a considerable group of auxiliary equipment, not shown here.

Electrotypers use them to inspect the levelness of their plates and to insure accuracy. Finishing to test proofs gives faster as well as better results.

Printers use them to inspect type composition for imperfections, high and low rule, letters, slugs; to inspect patent plates and blocked plates, to level them by underlay and apply pre-makeready to the back; to make color proofs and dummies; to test inks and papers; to make chalk overlay proofs and reproduction proofs; to check foundry forms and small press forms.

Hacker Presses ink and print like cylinder presses.

Hacker Block Levellers

Hacker Block Leveller No. 2

No. 1 ..... size 12″x18″
No. 2 ..... size 9″x15″
No. 3, bench model, size 9″x15″

All Hacker Block Levellers are precision finishing planers for blocked plates. They operate under new mechanical principles and give a degree of accuracy not commonly found in this field.

A single six-tooth cutter driven at high speed is drawn across the slowly revolving work. Special clamps force the plate firmly against the block. Chips are carried away by vacuum. Handles metal also.

Plate makers use them extensively to insure the delivery of plates mounted accurately to type-high.

Printers use them to level blocked plates to gain immediate and definite savings in press makeready.

Hacker Type Gauge

An instrument for the quick and reliable measurement of height of single types and line slugs. Slugs or types are held against a back stop and slid under the indicator. Helps keep machine composition accurate.

Hacker Slug Gauge

An instrument of similar construction and purpose for measuring the thickness of line slugs.

Hacker Plate Gauges

Hacker Plate Gauge No. 9

No. 8, Floor, all sizes, flat and curved, up to 26″ min.

No. 9, Bench, flat and curved up to 18″ min.

No. 10, Portable, flat up to 9″ min.

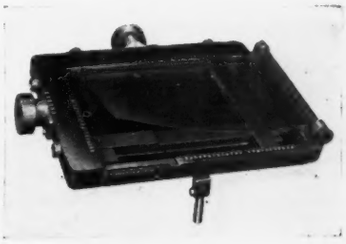
Instruments for measuring the thickness or height of printing plates, mounted and unmounted, flat or curved. All Hacker Plate Gauges measure under printing pressure, thus giving the functioning height while printing. Readings taken instantly at any point on plates.

Plate makers use them to check the accuracy of their shavers and planers.

Printers use them for pre-makeready by underlay; also for measuring paper, board, copper, bases, etc.

Indispensable to every plant striving for accuracy and control of makeready.

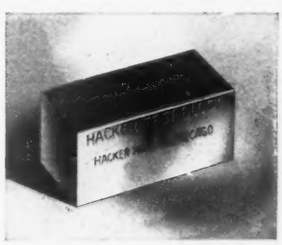
Hacker Make-Up Gauge



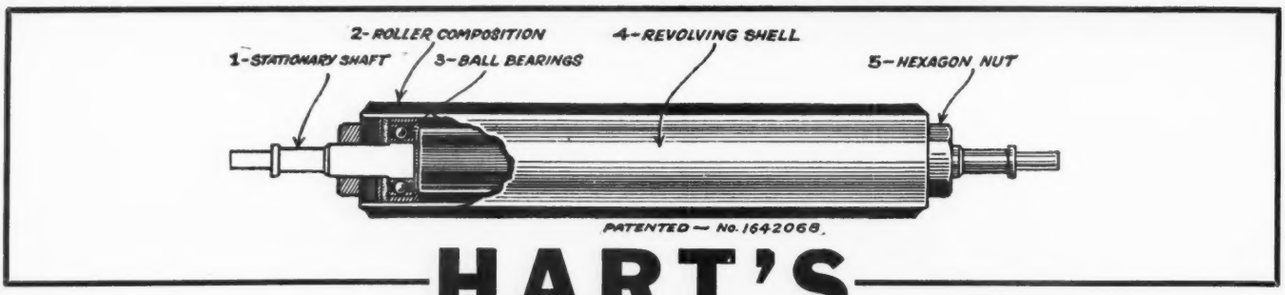
An instrument for the accurate squaring, sizing, justifying, aligning and registering of original page forms, resulting in great savings in stone work, press shifts and press work-ups. Used on the bank in lieu of galley. Eliminates the variables of hand make-up. All adjustments made under uniform lock-up pressure. Precision in page make-up.

Hacker Test Blocks

Are precision hardened steel gauges with relief printing lines exactly type-high by one inch by two inches. A proof on a cylinder press with a bed full of these blocks discloses all errors of impression. This proof with a mark-out overlay is hung next to the cylinder as a semi-permanent correction of impressional defects of the press. Also used to standardize cylinder packing on a battery of presses.



THE CORE WITH THE STATIONARY SHAFT



HART'S
BALL BEARING ROLLER CORE

PATENTED

When you have roller troubles, don't blame your press manufacturer, pressman or roller maker, as more often it is due to the old style core which has never been improved or changed since the advent of modern presses, and has become obsolete. Ball Bearing Roller Cores will do sharper and cleaner printing, reduce friction, eliminate worn sockets and journal ends, and will save power.

Remember these facts when ordering new presses. Specify *Hart's Ball Bearing Roller Core*. Your old presses can be equipped without change of parts.

Licensed manufacturers: Goss Printing Press Company, C. B. Cottrell & Sons Company and R. Hoe & Company.

Send for circular and prices without obligation.

WILLIAM C. HART COMPANY, INC.
PRINTERS' ROLLERS
137 GREENE ST. NEW YORK CITY

Experimental Laboratory Is Proposed by F. T. Denman

By STAFF WRITER

DEPLORING the present price emphasis as the dominant note in selling printing and urging cooperative effort to make the printed message a more effective selling force, Frank T. Denman, principal speaker before the Direct Mail Advertising Association at Philadelphia, October 24, declared that new markets for printing must be developed if the industry is to regain former volume. Mr. Denman is an executive of Kenyon & Eckhardt, Inc., New York advertising agency.

"It is too bad that the selling of printing has to be saturated with this question of price," he said, "too bad from the printer's viewpoint because it makes it hard for him to do the kind of work he would like to do and still make a profit. Too bad from the buyer's side, because so often it keeps him from getting anything more than just a cheap job.

"I believe that if the printing industry really wanted to, it could wipe out price as a major selling factor. It could set up a scale of basic prices as definite as those of the engraving or electrotyping business. You don't ask for bids from a dozen paper houses when you buy a ream of paper. Why shouldn't a thousand black impressions on that paper have just such an established value?

"However, it isn't price that accounts for the idle machinery in the printing industry today. The jobs that are keeping your presses shrouded in muslin are not the jobs you lost to a competitor—they are the jobs nobody has thought of printing. Other industries—metal, chemical, electrical, rubber, paper—maintain experimental laboratories to develop new uses for their products. What have we done to develop new uses for printing? When you come to think of it, we have done pitifully little to promote the uses that are known, tested and proved.

"There are no natural limits to the amount of printing that can be done. There is no saturation point. The only thing that limits the amount of printing is lack of imagination. Business can absorb any quantity of printing as long as it sells goods profitably.

"Printing jobs are usually synthetic. We get one idea here, another there, put them together in a new combination. Expose the customer to as many ideas as possible. Printing is one of the oldest forms of advertising. It is still one of the most powerful. But it has allowed itself to be overshadowed by the newer forms which have developed spectacular techniques and jumped into the limelight. Printing can be as dramatic as radio, as dominating as magazines, as fast on the trigger as newspapers."

OPPORTUNITY

A well-known manufacturer is culling out a small group of seasoned salesmen to present an interesting new development that will be down the alley of the larger publishers and print shops. Each man will be given his own territory but must work on a straight commission basis. If you have a following among top flight printers, publishers and newspaper mechanical superintendents and would like to investigate this opening, address Mac Sinclair, *Printing* EQUIPMENT *Engineer*.

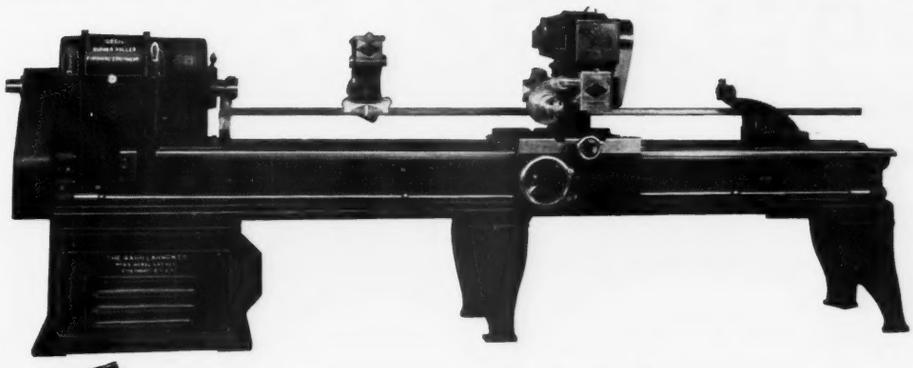
Miller Moves New York Office

It has been announced that the Miller Printing Machinery Company of Pittsburgh, Pa., has moved its New York branch office to the McGraw-Hill building at 330 West 42nd St. Dan J. Casey is branch manager. Phone numbers are MEdallion 3-2821—3-2822.

CECIL

SERIES "J"

RUBBER ROLLER FINISHING EQUIPMENT



CINCINNATI TIMES-STAR

Altoona Mirror.

THE KANSAS CITY STAR.

The Minneapolis Tribune

THE ROANOKE TIMES

The Evening Star

McCALL'S MAGAZINE

DUBREE PRINT ROLLERS
TRADE-MARK REGISTERED

WASHINGTON TIMES

The San Francisco News

Dual Performance

Rollers—Accurately—Dressed and Polished On This Machine

Finish rubber rollers *easily, efficiently* and *economically* in your own plant with the Cecil Series "J" complete Rubber Roller Finishing Equipment.

The Series "J" Machine is specially designed to dress and polish rubber rollers. It is of rigid construction, with a low center of gravity and requires only 35 minutes to run a cut across a roller of 72-inch face, up to and including 7½ inches in diameter. The *metal cutter* used for dressing finishes rollers with an *accuracy* usually found only on *hard* metals. Cutter removes as little as .005-inch or as much as $\frac{3}{16}$-inch from the diameter in one cut, as desired.

Anyone experienced in handling tools can easily refinish rollers with Cecil equipment.

The Metal Cutter Takes "the Grind" Out of Roller Grinding—"IT CUTS"

The Goss Printing Press Co. are Agents for Cecil Equipment

DUST-LESS EQUIPMENT COMPANY

1406 Monroe Street, N. E. • • Washington, D. C.

Write for Prices and Full Information

FROM FAR OFF AUSTRALIA
the Sydney Morning Herald has just ordered Series "J" CECIL EQUIPMENT

KANSAS CITY JOURNAL-POST
has just ordered CECIL SERIES "AA" MACHINE

Newspaper Streaking Device

LEVEN T. DEPUTY, member of the Mechanical Board, The Dallas (Tex.) *News and Journal*, described for *Printing* EQUIPMENT *Engineer* a streaking device to designate the different editions by marking a red or green streak upon the right side of the first page. A separate mechanism is used for each color of ink. Only a small amount of time

Fig. 1.—Streaking mechanism in place of trolley

Fig. 2.—Component parts of streaking mechanism disassembled.

is required to make the change from one to the other. The device can be put in any page-one position on the press. A special water color ink is used which is furnished by a Dallas concern.

The device was conceived and made by Frank Brown, a member of the mechanical staff.

The streaking mechanism is put on the press in place of a trolley, as is shown in Fig. 1. The component parts are shown in Fig. 2.

The actual transfer of the ink to the paper is accomplished by means of two ball bearing rubber-tired rollers, 1¼ in. diam. Each of the rollers is grooved to accommodate a "tire" about ¼ in. diam. The two rollers work against the paper on the drag roller which is covered with adhesive tape and function in a manner similar to the form rollers in order to make a good streak.

The larger roller in Fig. 2 is the ink drum which supplies ink to the streaking rollers. The drum is 3 in. diam by 1½ in. face. The face is grooved centrally (approximately ¼ in. wide) to retain a felt band which absorbs the ink from the drum interior through small holes drilled in the bottom of the groove underneath the felt band.

The drum runs upon tow ball bearings mounted upon two stud bearings with felt and steel disk retaining washers to prevent the ink fluid from leaking out. The ink is fed into the drum through a hole drilled centrally in one drum stud shaft at the side to which is attached the feed pipe and fluid-holding cup. The stud shaft or bearing is connected with the oil drip cup by ¼ in. brass tubing.

The drip cup fountain holds enough ink to streak about 5000 copies and can be refilled easily through an opening in the top of the cup.

The fluid in the cup as shown in either Figs. 1 or 2 represents the unused amount of ink after a 3000 edition run.

Section Handled by Fred Glenn Small

The Wood Newspaper Machinery Corporation 4-page section that appeared in the October *Printing* EQUIPMENT *Engineer* was handled by Fred Glen Small, Inc., New York, N. Y. This agency also handles advertising for Intertype Corporation, Vulcan Proofing Company and Babcock Printing Press Mfg. Company.

QUADHOLE BASE

PRINT RIGHT WITH INEXPENSIVE BASE—
WITHIN THE REACH OF ALL PRINTERS

Made in 2 Styles:

Style "B"
For use with
Blatchford Hook
8 sq. in. to lb.

Style "S"
For use with
Printing Machinery Co.
Sterling Hook
12 sq. in. to lb.

60c per lb.

Savings in cost of unmounted electros alone will pay for it

Mixed forms of Linotype, Monotype, Ludlow and patent base electrotypes, easily locked up with the added feature of register. Color jobs can be printed with the type and color plates running in one form, saving electrotyping of the type matter and assuring the register of color plates.

M & L TYPE FOUNDRY

4001 Ravenswood Ave. • CHICAGO, ILL. • Phone Lakeview 8201

WRITE FOR PRICE LIST OF QUALITY FOUNDRY TYPE

Isn't It True?

By E. B. HARDING*

THE busy country publisher burst into the office of his friend in a neighboring town, threw off his hat, wiped his brow, helped himself to a cigar and exploded:

"I have an opportunity to buy a used composing machine, 'as is,' so cheaply I cannot pass it up. What do you think of the idea?"

"Do you have business enough to warrant the purchase of another machine?" inquired the friend.

"No, but my machine is in need of a lot of repair. I can salvage these repair parts from this bargain machine."

The answer is that the idea is not a good one because it is not equipment at all.

All too often in a plant where there has been a consolidation, obsolete machinery has been left standing on the floor of the plant instead of junking it. In some cases it has even been moved in from the closed plant. It never runs. Absolutely it is of no use. It catches dust and blocks aisles, thereby causing extra steps to interfere with production. Sometimes we wonder if the owner is hoping for a fire.

It is a fallacious idea that repair parts can be gleaned from a junk machine. In almost every case these same parts wear on all machines of a given type just like the soles of your shoes and the seat of your pants. Of course, in the case of the pants, your faithful wife can cut a patch from the vest, but one cannot cut a tympan bale from a press bed.

The case of the shoes is more like that of machinery trouble—you have new sole leather put on. And if you are wise when the printing machinery wears out you will put on new parts until that machine has served its time, after which you will junk it and install a more modern machine.

If you are a glutton for grief or if you don't mind whether work is delayed, then you might try to make one good machine out of two pieces of junk—but you will not succeed.

*Instructor in Printing, South Dakota State College, Brookings, S. D.

Ortleb Aide to Public Printer

The name of the George Ortleb Company has been changed to the Ortleb Machinery Company, George Ortleb having severed his connection with the company. His son Douglas, who is now president of the company, will continue the business at the present location, 114 N. Third St., St. Louis, Mo. Other officers are C. L. Mattes, vice president and treasurer, and Ella Ortleb, secretary.

George Ortleb, who has withdrawn from active participation in the company bearing his name, has been appointed aide to Hon. A. E. Giegengack, public printer to the United States.

Mr. Ortleb's personal experience in the printing industry qualifies him for his new duties. He served ten years as general superintendent of a large St. Louis printing plant. In addition, he is a chemist, ink-maker and photoengraver. He has made a special study of paper-making.

Chief among his several inventions is an agitator which mixes ink automatically in the fountain of a printing press.

Mr. Ortleb is also well known throughout the country for his activities in connection with the Craftsmen movement.

G. E. Sales Up

President Gerard Swope has announced that sales billed by General Electric Company during the first nine months of 1934 amounted to $121,735,122.98, compared with $97,426,146.39 during the corresponding period last year, an increase of 25 per cent.

VARNISH & GUM DRYER

Get ACQUAINTED WITH EMBOSSOGRAPH PRODUCTS

• Embossograph Products fit well into the scheme of things of today because they can show their owners good profits. That's why every printer and lithographer should have a "speaking acquaintance" with Embossograph Equipment. Get acquainted with the following Embossograph Products.

THE FAMOUS "CAMEL BACK" DRYERS

• "Camel Back" Dryers for use in gumming and varnishing are in wide spread use in leading printing and lithograph plants. They are equipped for gas, steam, or electricity, direct or indirect heat. There is a model that will meet your particular requirements.

EMBOSSOGRAPH EQUIPMENT

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For 30 years our organization has been rendering a complete moving service to the Printing Industry. We make layouts with proposed changes or rearrangements — advise whether moves will be justifiable financially or otherwise — give you complete costs for rearranging or moving equipment in the same building or to a new location. These figures include all details even down to gas and electric service — we can handle the moving of single machines or entire plants as you desire.

Here is a list of concerns using our services. Many of them are on a contract basis. Get in touch with the firms and ask about our work.

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Benze Perfection Sample Card Co.
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E. P. Lawson Co.
T. W. & C. B. Sheridan Co.
Court Press, Inc.
O. E. Saunders & Sons.
North Shore Flushing Journal
A. S. Browne, Hoboken.
Prudential Life Insurance Co., Newark, Printing Dept.
Reuben H. Donnelley, Printing Dept. (N. Y.)
National City Bank, Printing Dept.
Intertype Corp.
Savoy Reeland Co.
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Ludlow Typograph Co.
Vandercook & Sons, Inc.
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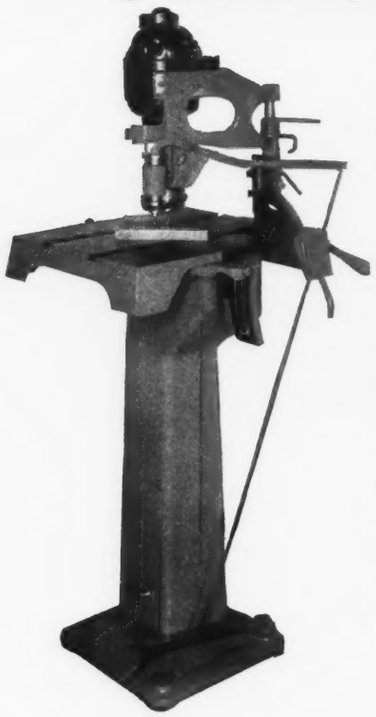
High-Speed Routing Attachment



It has been announced by the J. A. Richards Company, Kalamazoo, Michigan, that a new High Speed Routing Attachment has been incorporated with the standard "Do-More" Saw Trim-Planer.

The photograph shows the attachment in position on the work table of the Saw-Trim-Planer.

Further particulars may be obtained from the J. A. Richards Company in Kalamazoo, Michigan.

Change of Company Name

The Printers' Mat Paper Supply Company, 3628-30 Lincoln Ave., Chicago, Ill., has been changed to Stereotype Equipment Company. Manufacturing facilities have been increased so that all parts of the Reliable mat molding press and casting boxes can be made in the newly-broadened plant.

A new model casting box called the Bench Model has also been announced. The Bench Model is designed to meet the demand for a small stereotype casting box which can be operated at a convenient height. Being equipped with a metal pot and platen preheater, the bench model occupies a space measuring 15 in. by 20 in. Full details can be obtained by writing to the Stereotype Equipment Company, 3628-30 Lincoln Ave., Chicago, Ill.

Persons Manager for Huber

Effective November 1, Ralph C. Persons will assume his new duties as manager of the St. Louis branch of the J. M. Huber Company. Prior to his new engagement, Mr. Persons was branch manager for Brandtjen and Kluge Company in St. Louis. Mr. Person's many friends will be glad to know of his recent advancement.

Miller Succeeds Hoit

William R. Hoit for sixteen years mechanical superintendent of the Bloomington (Ill.) *Pantagraph,* passed away at his home, October 24. He had been troubled with stomach ailment. Previous to his passing, Mr. Hoit had completed a program of research and experimentation in printing which resulted in numerous improvements adopted by *Pantagraph.*

Russell B. Miller, assistant mechanical superintendent, has succeeded to Mr. Hoit's position.

Choice of the Leaders

HARRIS 38 × 52 OFFSET

OFFSET	
Group 1 17 x 22	Group 3 1, 2, 3 and 4 Color. Optional registering mechanisms—feed rolls or tumbler grippers 32 x 44 38 x 52 44 x 64
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Operating Two Rolls From One Reel

In Plant of The Washington Evening Star *to Eliminate Use of Extra Reel and Conserve Time Between Editions*

By C. W. WELCH*

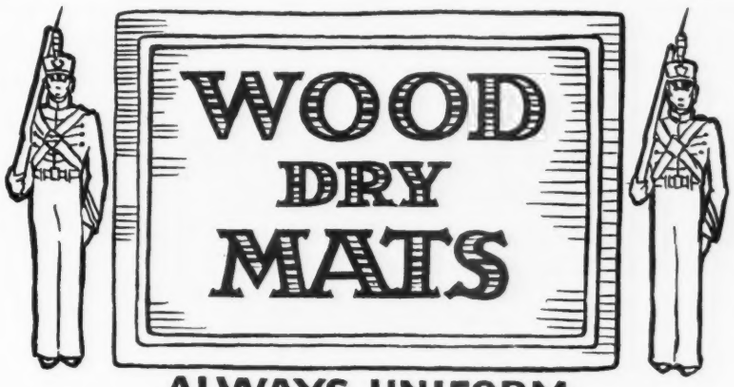
THE night final edition of the Washington *Evening Star* carries a pink cover to distinguish it from other issues. In order to avoid changing a reel of full white paper to a half white roll and at the same time engage another reel for a half pink roll, thus using five reels to operate four units, a plan has been formulated in the *Evening Star* pressroom whereby it is possible to print the complete paper with pink first-section cover, operating from four reels, by mounting a half white roll and a half pink roll on the same reel. Under this arrangement the spindles containing the two half rolls can be readily shafted and installed in the press while the full roll of white paper is running on the previous edition. This conserves time between editions.

For purposes of discussion let us consider a 32-page, two-section product, with a 16-page first or "A" section. Pages 1, 2, 15 and 16 of this section are printed on pink and the remaining pages on white newsprint. With a cross-associate run using four units this means that one-half of the newsprint from one reel is pink and the other half white. This is accomplished by using two half rolls—one pink, the other white, installed in the following manner:

The two rolls are mounted on a spindle shaft with a double-end chuck equipped with a ball thrust between. This chuck provides a clearance of about ⅜ in. between the rolls as well as a means of centering the two cores at the middle of the spindle. Approximate centering of the other end of each core is accomplished by sliding a narrow collar along the shaft into the end of the core. These collars assist in the final centering of the shaft and simplify mounting in the reel.

Continued on page 127

*Assistant Superintendent, The *Evening Star*, Washington, D. C.



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Stereotype Accessories (Scorchers, Mat Storage Boxes, Cork Molding Blankets, Felt Molding Blankets, Rubber Molding Blankets, Molding Boards, Packing Felt, No. 64 Parting Powder)

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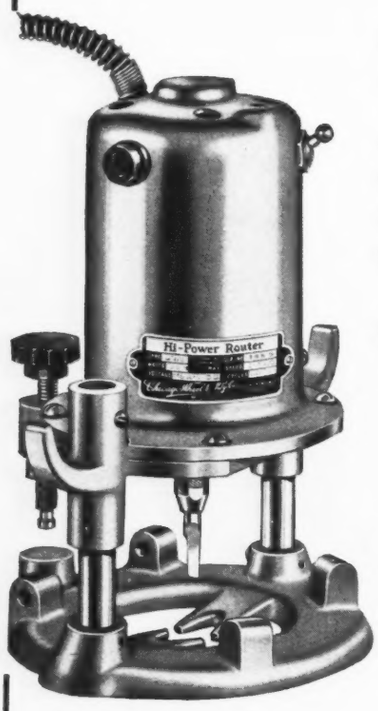

Price of Router complete with Chuck for Standard 1/4-in. Shanks and 10 feet of Rubber-Covered Cord

$29.50

Just take this little Router to the place where the work is to be done

THIS useful Router will be found indispensable in the printing plant for the following operations:

Spotting out undesired portions of photoengravings, electrotypes and stereotypes while locked in a form on the press.

Line-casting machine quad lines may be routed to a lower depth to prevent smudging in the press, either in the composing room or while form is locked in the press.

Tint plates, rules, etc., may be corrected for register while in color form on the press.

Tint blocks, poster borders, date lines, special letters, sales headings, etc., may be made from zinc, wood or linoleum.

It may be used for identifying wood mounted plates, and marking customer names on back of stereotype shell casts.

Provision is made for use of a straight edge and guide so the Router can be set on a locked form, pulled across the plate and an entire line removed instantly.

Router base is provided with celluloid plate to protect work from routed off chips and to provide frictionless movement without scratching the work.

Operates either from 110-volt D.C., or A.C., 25 to 60 cycle current. 220-volt router supplied at small additional charge.

Spindle speed, 23,000 r.p.m. Weighs 4 pounds.

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1101 West Monroe St. Chicago, Ill.

Maintenance Schedule

Adapted to Needs of Machinist in Caring for Composing Machinery in the Smaller Composing Rooms

By H. GEORGE GILBERTSON*

H. George Gilbertson, Chief Machinist in Charge of Battery of Machines in Plant of Flint (Mich.) Journal.

I AM interested in all articles about line-casting machines, particularly those pertaining to maintenance schedules. An article published recently in *Printing* EQUIPMENT *Engineer* shows Jas. F. Hubbard's maintenance schedule as used in the plant of the Boston *Herald and Traveler.* However, Mr. Hubbard's schedule, as well as some others I have seen from time to time, are suitable for use by composing room machinists in charge of large batteries and are not altogether adaptable to the needs of the small plant. You see, some of our problems are peculiar to the small plant.

The Flint *Journal* is a seven-day paper. It is published six afternoons and Sunday morning. The battery consists of fifteen linotypes, one of which is a 42-em machine. Although I have succeeded in building up these machines into an efficient battery, I do not consider myself an expert. The schedule as printed here is the outcome of trying to develop some system, over a period of time, which would permit caring for the machines in the *Journal* plant so that interference with the operators would be avoided as much as possible. In fact, this is a schedule designed for use in the smaller plant which may be followed by the other machinist in a small composing room, whether he be an operator who cares for his own machine in a one-machine plant or whether he is a full-time machinist with several machines to look after.

When I first began to care for linotypes I used to set aside a certain day in which to oil and clean the machines. Often,

*Machinist, The Flint Daily *Journal*, Flint, Mich.

however, something came up which caused the operations to be side-tracked before completed. The plan I now use divides these operations so certain parts of the machines are oiled, cleaned and adjusted each day of the week. If each day's schedule is completed, the machines will have been given a thorough oiling, cleaning and checking of adjustments by the end of each week. The schedule is for a six-day week, but a little rearranging can be done to fit a five—or a four-day week.

As Friday is our busiest day, the lightest schedule is listed so that immediate attention may be given to distress calls, thus keeping the machines going at maximum capacity.

On days when all machines are in operation, the checking of adjustments and making repairs would hold up production, consequently the machinist or his assistant can change hours so that these jobs can be done before shifts start or while operators are out for lunch.

A regular schedule of inspections, adjustments, lubrication, repairs, cleaning, and so on, if rigidly adhered to, will keep replacement costs down to a minimum, besides helping the operators produce type without becoming nervous wrecks from "fighting" the machines all day. Being an operator myself, I fully appreciate their troubles.

The following schedule is submitted with the idea in mind that it may help some machinist or machinist-operator who has no regular plan. Each day's schedule is written or printed on a card which is left on the bench in plain view. First, list the operation, then the numbers of all machines. For example:

Oil keyboard cam roller bearings, assembler mechanism, and matrix delivery belt idler pulleys

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Then check off each machine as each operation is completed. Should circumstances prevent completing the full schedule, the machines which are not checked off should be taken care of before the next day's list is started. To this list should be added any jobs noticed by the machinist as he makes his rounds, and such jobs should be carried forward on the lists until completed. This plan also eliminates trying to remember some of the hundred and one things that come up in a day's work.

Daily—Polish and count spacebands.
Check pot pump plunger strokes and pump stop.
Brush off and oil Mohr Lino-Saws, and clean cables.
Polish all recessed molds, without removing from disk.
Clean plungers and wells and pot well feed holes.
Wipe face of all molds, removing accumulated metal with brass rule.
Dust off all machines.

Monday—Inspect all motors in composing room, and add necessary oil.
Oil keyboard cam roller bearings, assembling mechanism and matrix delivery belt idler pulleys. Oil distributor screw bearings and distributor boxes. Wipe off any spilled oil and any oil that may have worked out since the last oiling. One drop of good oil weekly in each oil hole is usually sufficient for distributors, keyboards and assemblers.
Check Mohr Lino-Saw measures.

Tuesday—Open vise, turn machine back until distributor shifter just clears second elevator bar (turning the machine back till second elevator starts to descend will permit ejector to slide forward and possibly damage liners). Unlock and draw mold disk forward. Oil disk, mold slide, ejector slide, also put a drop on the screw on which the left mold disk support rides. Clean out mouthpiece holes and vents. Clean backs and faces of molds. Push slide back and return machine to normal position.
Check mold wiper, knife wiper, studs and sockets. Test vise automatic mold disk stop dog and replace spring if broken.

Wednesday—Take metal temperatures with thermometer and adjust governors.
Oil vise jaw wedges, pot legs, slug jogger and roll, knife wiper lever and bracket roll, vise automatic roll. Apply a little oil to first elevator slides and slug slides.
Graphite line delivery, transfer, distributor shifter and assembling elevator slides.

Thursday—Inspect all motors in composing room and add necessary oil.
Turn all grease cups one-half turn, or more if necessary.
Oil rollers (pump, pot lever, delivery slide, transfer, ejector slide, justification) enough to flow through bearings. Oil holes in base and column—

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Cut and scored exact size for Kelly, Miller, Harris, Miehle, Simplex, Babcock presses. Protects make-ready under every condition. Tell us your tympan size and get free trial sheets.

3 New CENTAUR

If it's a matter of price, order CENTAUR — a dependable low-priced roll tympan, recommended for short runs — a hard top sheet for run-of-the-hook work in job shops.

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Cut and scored exact size for all high-speed presses. Tell us the size and make of your press, and we will send, without obligation, a few trial sheets. Write today!

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shaft bearings for line delivery, transfer, ejector lever, pot lever, pump lever, justification levers, distributor shifter, and mold turning shafts.

Test and adjust vise automatics.

Check Mohr-Saw measures.

Friday—Check all belts, taking up slack and replacing damaged belts.

Caliper all slugs to point size and type-high.

Test all gas connections for possible leaks and inspect burners.

Lubricate and clean saws, mitreing machines, proof presses, and ventilating fans.

Wipe off all grease and oil worked out from Thursday's schedule.

Saturday—Inspect and adjust transfers.

Replace worn assembling elevator buffers (fiber) and assembler stars.

Set measure to avoid tight lines, and adjust assembler slide brakes. Inspect assembler chute rails and springs.

Polish all solid molds without taking from disk.

Check Mohr Lino-Saw transmissions, cables, ball bearings.

Monthly—(between first and tenth)—Oil knife blocks, justification spring rods, elevator transfer turnbuckles, first elevator lever links, magazine shifting mechanisms, ejector lever pawls, and justification bar rods.

Clean spaceband boxes and repair or replace worn parts.

January, May and September—Clean mats, magazines, escapements and keyboards, keeping record of cleaning dates in 3 in. by 5 in. card index file. Magazines are to be dry-brushed, then cleaned with carbon tetra-chloride or cleaner's naphtha, and brushed again when dry. Matrices are cleaned with Faber's No. 104 typewriter erasers.

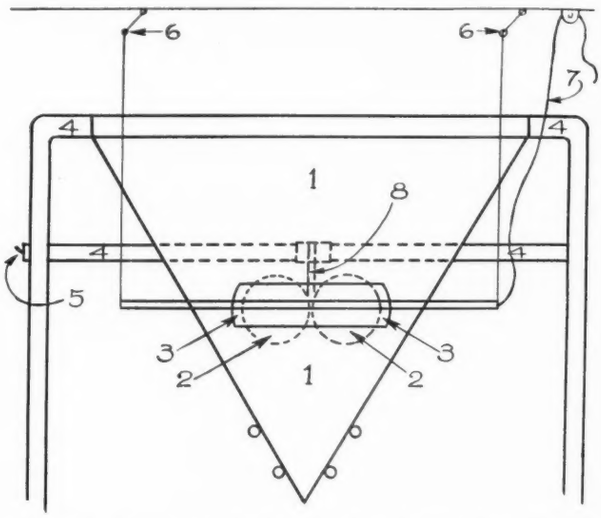
At the bench is a group of small trays, one numbered for each machine, in which are placed matrices which stop distributors as well as damaged spacebands. These are repaired as time permits. As matrices and parts are discarded, a record is immediately made, from which parts orders are made up. Except in emergencies, requisitions for supplies are confined to one order per month.

Electro-Magnetic Paper Stop

ROBERT A. PHELPS, pressroom foreman of the New York *Law Journal* needed some kind of a safety appliance for the quarter-page folder of a 24-page newspaper press in the department which he supervises. On runs exceeding 16 pages it was found that there was almost a certainty of a "crack-up" in the quarter-fold if, for any reason a sheet became lost during a run. This was due to the fact that the remaining paper would not pass through the folding rollers in the quarter folder as the speed was reduced in coming to a stop.

The idea for an Electro-Magnetic Paper Stop to alleviate Mr. Phelps' difficulties was devised and worked out by J. Foster Bowers, a director of the New York *Law Journal* Pub. Co., Garret M. Ross, electrical engineer and George Enders who is associated with Mr. Ross.

Construction of the device is simple. It consists of an electro-magnet placed at the underside and against the former. A steel shoe is hung over the magnet but ¼ in. away from the former. It is held in this position by springs. By simply pushing a button mounted on the press frame to energize the magnet the steel shoe is drawn to the former and held with such force that the paper passing over

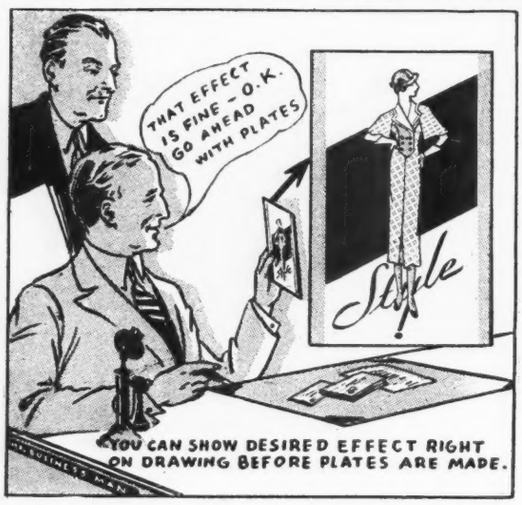


In the above diagram is represented an Electro-Magnetic Paper Stop used in connection with a newspaper press and quarter-page folder in the plant of the New York Law Journal. *At* 3-3 *is used a steel shoe suspended in front of and ¼ in. away from the former* 1 *by wires and light tension springs* 6-6; *behind the former* 1 *at* 8 *is mounted the magnet* 2-2 *on the press frame* 4. *In case of emergency, the switch* 5 *is thrown to energize the magnet to pull the shoe* 3 *against the former, which action tears the paper from the nipping rollers and pins to prevent accidental breakage. The cable* 7 *is used to pull the shoe* 3 *up out of the way when the safety paper stop is not in use.*

the former is torn from the nipping rollers and pins, leaving nothing in the folder.

When not in use, the shoe is swung to the ceiling by a small cable. The cable runs from the shoe to a pulley fastened to the ceiling and down to a convenient place beside the press.

BOURGES ARTIST "SHADING SHEETS" ADD CHARACTER AND SIMPLIFY BENDAY AND COLOR PROBLEMS



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Chain Drives for Presses

And Other Printing Machinery Have Advantages in Positive Driving Force and in Short Center Installations

By Francis A. Westbrook*

The use of chain drives for the transmission of power to various types of printing presses and other printing equipment has a great many advantages. Briefly, these include the elimination of shutdowns due to belt breakage, increased production due to the absence of belt slippage, better register at varying speeds and greatly decreased maintenance. Chain drives handle jerky loads with accuracy, such as when work is being set up and adjustments are necessary, and chains may be used with success for very short distances between centers so that the motor may be placed out of the way under the machine, or in some other convenient location. One of the greatest advantages is that chain drives may be installed on existing machines and motors, usually at no great expense, and in many cases they may be employed to do away with trains of gears which are noisy, dangerous, and call for constant attention in the way of lubrication.

*Mechanical Engineer, Center Conway, New Hampshire.

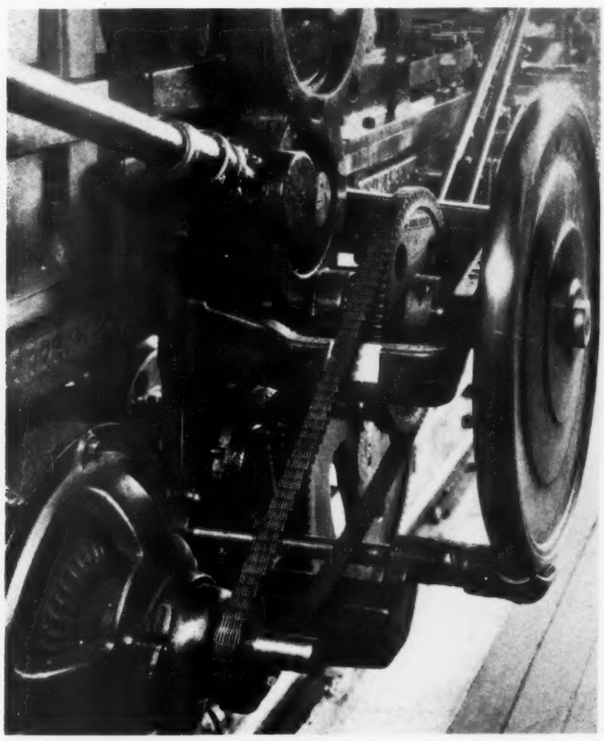

Fig. 1.—This picture shows an application of Link Belt Chain Drive to a Miehle Printing Press in the plant of the Geo. F. McKiernan Company, Chicago, Ill.

BURGESS CHROME MATS

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IN
Syndicate Mats

Ordinarily, Quality and Syndicate Mats have not been considered at the same time. It has been the practice to use any unsatisfactory product intended for curve casting as a job mat.

This is now changed for Burgess Cellulose Company have **again** led the way by producing a mat especially constructed for commercial and syndicate use.

It moulds easily . . . has minimum shrink . . . dries flat in air . . . easy on patterns . . . makes fine printing plates . . . in all, it is just what is wanted in a syndicate or job mat.

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FREEPORT, ILLINOIS

CHROME MATS
A Laboratory Product
A 197

Pacific Coast Representative, RALPH LEBER,
426 Polson Bldg., Seattle, Washington

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

They are suitable for a great variety of conditions, such as high and low speeds, large and small motors, short or long distances between centers, etc. With push-button control the machines may be started and stopped quickly.

While this matter of drives may seem relatively unimportant in comparison to the many other problems which must

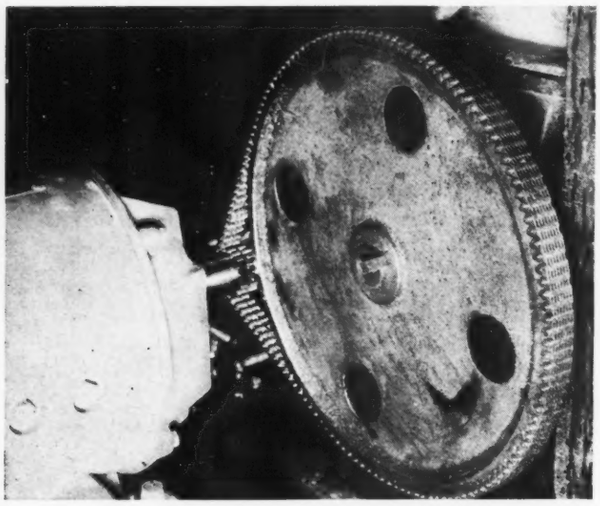

Fig. 2.—An interesting application of a Link Chain Drive to a Cline Paper Feed in the plant of the Toronto Star. *The motor pinion has 18 teeth and the driven wheel has 135 teeth. The chain is ⅜ in. by 1 in.*

be faced in the printing industry it is worth bearing in mind that the final efficiency of any plant is largely dependent on the attention given to a multitude of details which, in the aggregate, amount to a great deal. For instance, in regard to drives, one printer reports that he had so much trouble with short belt drives between the motors and the press counter-shafts that he installed chain drives on a Pony Miehle and a No. 1 Miehle and never had a shutdown again due to power transmission trouble, and that the chains paid for themselves in a little over a year. Another printer installed chain drives on all of his cylinder presses and found that due to the improvement in register at varying speeds, and the elimination of belt troubles, his production was increased to such an extent that the cost of the new drives was saved every six months. A folding machine in another plant was changed from belt to chain drive and it was found that production was materially increased because the belt was bound to slip and the chain does not. Several of these applications are shown in the illustrations.

A very interesting installation of chain drives has been made in the plant of the Toronto *Star* which will serve very well to illustrate some of the points mentioned. One of these is for the drive of a Cline Paper Feed, shown in Fig. 2, where the speed reduction is very large and the distance between centers very short. The motor pinion has 18 teeth and the driven wheel 135 teeth. The chain is ⅜ in. by 1 in. Another drive in this plant is also shown in one of the illustrations and is for operating a Hoe press. In this case the motor is 150 h.p., 1050 r.p.m. and the speed reduction to the driven shaft is to 375 r.p.m. There are 19 teeth on the driver and 57 teeth on the driven wheel, with the distance between centers 4 ft. It will be seen from the picture that the chain is totally enclosed.

The low maintenance of this type of drive is shown by the fact that there are cases on record where chain drives have been in operation from ten to twenty years and have given excellent service, under the exacting requirements of this field. A certain paper published in the West has had such drives in operation for something like eighteen years and has

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A high standard quality knife insures your getting full value out of your trimmer. Our quality knives are not higher priced. Write us, sending sketch or pattern showing dimensions, together with name of Cutter. We will gladly quote you prices, delivery, etc., and also help you select quality and type of knife best suited to your operating requirements.

never had a shutdown due to power transmission difficulty and has had no expense for repairs during all that time. The only maintenance required has been lubrication once a week. The amount of lubricant needed for chain drives is very little. The saving in lubricating material alone is an item of

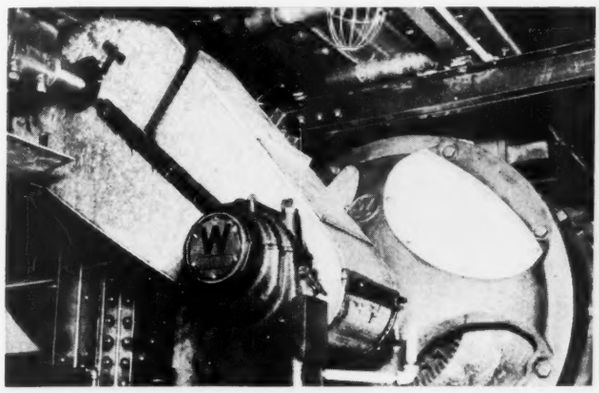


Fig. 3.—The Link Chain Drive for this Hoe press in the plant of the Toronto Star is enclosed by a safety guard. The 150 h.p. motor runs at 1050 r.p.m. and the speed reduction to the driven shaft is to 375 r.p.m. The distance between centers is 4 ft.

consequence. High room temperatures have no effect on chain drives.

In actual practice, chain drives are used with success for such diverse applications as ½ h.p. Chandler & Price presses, 5 h.p. automatic plate shaving machines, 15 h.p. Cottrell rotary magazine presses, Babcock two-color presses, Miller Simplex automatic presses and many others, besides those already mentioned. They are of great value in connection with mechanical variable speed equipment as well, where it is necessary to avoid slippage in order to maintain specific speed ratios.

Elected to G. E. Board

At a meeting of the board of directors of the General Electric Company on October 26, 1934, in the offices of the company at 570 Lexington Avenue, New York City, Francis D. Bartow was elected a member of the board.

Braden Becomes A.T.F.S.C. Manager

Fred Braden, well known in the West, as of October 8, became manager of the San Francisco Office of the American Type Founders Sales Corporation.

John S. Pinney, for many years manager of San Francisco Type Founders has retired.

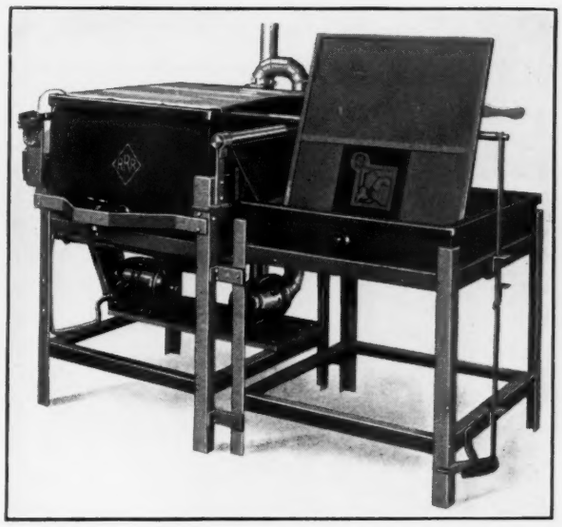
THANKS, MR. COBB

Printing Equipment Engineer,
Cleveland, Ohio.

Gentlemen: I look forward to each issue of PRINTING EQUIPMENT ENGINEER with much pleasurable anticipation, and ask that you kindly inform me before my name is taken off the mailing list, as I do not want to miss a copy of the magazine.

Yours very truly,
J. TROY COBB, *Chief Machinist,*
Haddon Composition Co., Inc.
New York, N. Y.

Robertson New Type Etching Machine



An entirely new principe lin etching. The machine has four paddles so arranged to give a uniform etch over the entire plate. The paddles break up the acid into a fine spray and throws the spray vertically against all parts of the plate.

The paddles are close to the plate so the plate is etched very rapidly, and due to the vertical action of the acid, the very finest quality of etching is secured. The vertical action prevents undercutting making the finest type of etching for stereotyping or electrotyping.

The plate can be removed from the machine for examination without getting acid on the hands or touching the plate. When the plate is being removed from the machine a blower blows the surplus acid off the plate.

A great quantity of air is drawn into the machine while the etching is being done and this assures a very rapid etch and a clean plate.

As the machine is closed at all times, the fumes do not enter the room but are carried off continually by a blower.

This is a big improvement in etching machines.

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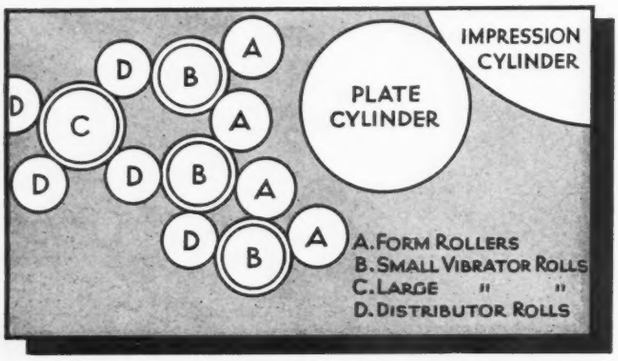
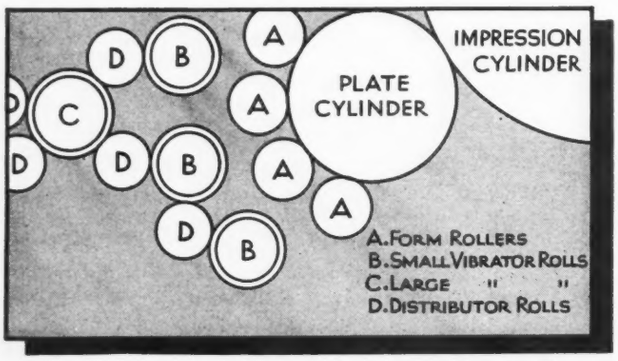
REGULATION OF DISTRIBUTION ON COLOR PRINTING SIMPLIFIED

PATENTED FORM ROLLER SETTING MECHANISM ON ROTARY PRESSES ENDS NEED FOR ROLLER GAUGES

Complete accessibility and accuracy without the need of roller gauges are now achieved by the patented form roller setting mechanism on U. P. M.-Kidder Rotary Presses. The diagrams tell the story.



The form rollers are racked back with the inking frame. The operator walks in, makes ready the plates on the plate cylinder and sets the form rollers circumferentially to desired contact with vibrators.



Then the inking frame—but not the form rollers—racks back. The form rollers remain grouped around the plate cylinder. In this position, the operator can walk right into the press and set the form rollers radially without disturbing previous setting made to vibrators.

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913

Patents for Printing Industry

Compound for Prepairing Matrices for Printing Purposes and a Mechanical Matrix Molding Press Among Issues

SEPTEMBER-OCTOBER

Printed Copies of Patents Are Furnished by the Patent Office at 10 Cents Each. These May Be Obtained by Addressing the Commissioner of Patents, at Washington, D. C.

Bookbinding:

1,975,628. BOOK BINDING. Joseph William Ballard, Greenfield, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts. Application November 23, 1933, Serial No. 699,389. 8 Claims. (Cl. 281 — 28.)

Claim 8. A super for books, composed of woven material of substantially uniform thickness throughout, compressed and flattened to such a degree that the overall thickness of the super is substantially reduced and the thickness of the joints of the warp and weft threads is correspondingly lessened.

Composing Machines:

1,973,839. TAPE ACTUATING DEVICE. Walter J. Zenner, Des Plaines, Ill., assignor to Teletype Corporation, Chicago, Ill., a corporation of Delaware. Application February 10, 1932, Serial No. 592,006. 25 Claims. (Cl. 178 — 42.)

1. In a tape actuator, a retarded-stop device comprising a normally moving element, an extensible member, means for operating the member to effect the engagement with the element, and means carried by the member to establish a limited movement of the element after the engagement.

1,973,961. TYPOGRAPHICAL MOLD. Harley J. Megley, Chicago, Ill. Application January 7, 1933, Serial No. 650,683. 38 Claims. (Cl. 199 — 55.)

1. The combination with a mold having jaw means forming a type bar casting cavity, the jaw means having open and closed positions, of means for positively locking the jaw means in closed position, the locking means being operable to open the jaw means.

34. A liner comprising a block having a side adapted for closing the end of a casting cavity, the block being split adjacent the side to free the same.

1,974,395. MATRIX ESCAPEMENT FOR TYPOGRAPHICAL MACHINES. Ransom H. Turner, Little Neck, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application June 26, 1933, Serial No. 677,696. In Germany September 26, 1932. 11 Claims. (Cl. 199 — 18.)

1. Escapement means for releasing matrices from the magazine of a typographical machine, comprising a series of escapements each having an open slot, and a rod adapted to be grasped by the slotted portions of the escapements and thereby normally retain the escapements in swinging operative position and from which the escapements may be removed individually.

1,974,397. MOLD LINER ADAPTER FOR LINE CASTING MACHINES. David L. Anderson, Brooklyn, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application July 17 1933, Serial No. 680,836. In Germany November 22, 1932. 8 Claims. (Cl. 199 — 57.)

1. A mold for line-casting machines having liners for determining the length of the slug body casting portion of the mold cavity, at least one of the liners carrying a stop formed separately therefrom and corresponding in shape with a recessed front part of the mold cavity suitable for casting slugs with overhanging type faces to limit the length of the front part of the mold cavity.

1,975,799. TYPESETTING MACHINE. Frank H. Poeppelmeier, Dayton, Ohio, assignor, by mesne assignments, to Set-O-Type Manufacturing Company, Cleveland, Ohio, a corporation of Delaware. Application October 20, 1931, Serial No. 569,882. 38 Claims. (Cl. 276 — 20.)

1. In a typesetting machine, an inclined magazine provided with a series of type grooves, a type delivery member at the lower end of the magazine, a vertical transfer chute below the delivery member, the latter being provided with type discharge openings over the chute, that communicate with the type grooves in the magazine, a flat surface formed with a small beveled projection in each opening against which the front type of each column in the grooves is held in the opening by the weight of that column of type, a series of keys, and hammers mechanically operated by respective keys to engage from above corresponding front type in the openings to force them through the latter into the transfer chute below.

1,976,486. MATRIX-SETTING AND TYPE-LINE-CASTING MACHINE. Julius Dorneth, Konradsbohe, near Tegel, Germany, assignor to Typograph G. m. b. H., Berlin, Germany. Application May 22, 1933, Serial No. 672,334. In Germany September 24, 1932. 3 Claims. (Cl. 199 — 25.)

1. In a key mechanism for matrix-setting and type-line-casting machines, matrix releasing levers operating keys therefor, and a rotatably operative common locking bar for preventing the release of the matrices, the locking bar acting solely to hold the releasing levers in the inoperative position and leaving the keys free for use in practicing.

1,976,158. MATRIX-SETTING AND TYPE-LINE-CASTING MACHINE. Wilhelm Blume, Berlin-Tegel, Germany, assignor to firm Typograph G. m. b. H., Berlin, Germany. Application April 5, 1933, Serial No. 664,632. In Germany May 24, 1932. 3 Claims. (Cl., 199 — 4.)

1. A matrix-setting and type-line-casting machine including in combination a frame, matrix supporting wires arranged above the frame, matrix release devices associated with the wires, an independent composing keyboard adapted to be fixed to a desired position on the frame, keys on the keyboard, Bowden cables extending from the keys, a secondary support above the frame, the matrix releasing devices being arranged on opposite sides of the secondary support, intermediate members in the form of bell-crank levers operably mounted on the support and each having one of their arms connected with the corresponding Bowden cables, connecting rods between other arms of each of the levers and the corresponding matrix release devices, and the rods being arranged in a straight line and unsupported through the space between the levers and matrix release devices.

Offset-Lithographing:

1,975,439. PHOTOGRAPHIC TYPE COMPOSING. Edmond Uher, Augsburg, Germany, assignor to The Firm Uhertype A. G., Glarus, Switzerland. Application February 2, 1933, Serial No. 654,967. In Germany February 9, 1932. 42 Claims. (Cl. 95 — 4.5.)

1. For photographic type composing in which the photograph of the surface of the form is set up stepwise by means of individual photographic reproductions of making-up units which are in themselves ready for printing, individual make-up carriers, each provided with precision means for locating the making-up unit carriers according to a pre-determined two-dimensional system of co-ordinates, in position for being photographed on the surface of the form.

1,976,582. METHOD OF AND MECHANISM FOR FEEDING SHEETS IN LITHOGRAPHIC PRESSES. Joseph Schultz, Cleveland, Ohio. Application July 28, 1932, Serial No. 625,394. 20 Claims. (Cl. 271 — 53.)

1. The method of feeding a sheet to the printing cylinder of a lithographic press consisting of lightly holding the leading edge of the sheet against disappearing stops, laterally positioning the sheet while the leading edge is in contact with the stops, lightly pneumatically dampening the movement of the sheet during a portion of the lateral positioning, releasing the leading edge of the sheet after the lateral positioning, and feeding the leading edge of the positioned sheet into grippers on a moving cylinder, and causing the grippers to seize the sheet.

1,976,039. PLANOGRAPHIC PRINTING. George S. Rowell, Cleveland, Ohio, assignor to Multigraph Company, Wilmington, Del., a corporation of Delaware. No Drawing. Application September 2, 1932. Serial No. 631,589. 7 Claims. (Cl. 101 — 149.)

1. The process of printing from a grease-receptive image carried by the surface of a printing plate, comprising the steps of rendering the non-image area thereof glycerin-receptive, forming a film of glycerin over such area, printing successive copies of the image with a greasy ink, and from time to time replenishing the glycerin film between successive inkings.

Plate Making:

1,973,782. COMPOSITE MATRIX FOR PRINTING PLATES. Gunnar Rosenqvist, Oakmont, Pa. Application May 31, 1932, Serial No. 614,431. 5 Claims. (Cl. 41 — 25.)

1. The metnod of making composite matrices for electro-plates which comprises placing a layer of wax on an electro-plate, placing a layer of fibrous sheet material on the wax layer, placing a lead plate on the fibrous sheet material, and subjecting the superposed layers to heat and pressure to cause the wax to flow and form an imprint on the surface adjacent the electro-plate.

Reissue-19,324. MACHINE FOR MAKING STEREOTYPE MATRICES. David H. Fleming, Norwood, Mass., assignor to F. Wesel Manufacturing Company, Scranton, Pa., a corporation of New York. Original No. 1,914,497, dated June 20, 1933, Serial No. 610,397, May 10, 1932. Application for reissue June 19, 1934, Serial No. 731,385. 45 Claims. (Cl. 101 — 12.)

1. In a machine for making stereotype matrices and including a stationary platen, a movable platen, means for reciprocating the latter, and means for releasing slightly the pressure of the movable platen upon a matrix, anti-friction members affording a support before the platens, a carriage movable thereover between the stationary and movable platens, and anti-friction supporting members movable with the movable platen and adapted to receive the carriage from the aforesaid anti-friction supporting members.

1,974,477. COATING FOR STEREOTYPE MATRICES. Louis G. Walters, New York, N. Y., assignor to Electrographic Corporation, New York, N. Y., a corporation of Delaware. No Drawing. Application June 15, 1933, Serial No. 675,971. 6 Claims. (Cl. 91 — 68.)

1. The process of preparing a matrix board for stereotyping comprising applying to a surface of the board as a coating a solution of colloidal-graphited water and starch suspended in water, and drying the coated surface to leave thereon a coating of very finely divided graphite and starch particles.

1,974,714. COMPOUND FOR PREPARING MATRICES FOR PRINTING PURPOSES. Richard Junghanel and Hans Gross, Munich, Germany. No Drawing. Application September 23, 1930, Serial No. 483,966. In Germany May 19, 1930. 4 Claims. (Cl. 91 — 68.)

1. The process of manufacturing matrices for printing purposes, consisting of a base plate and a coating composition, comprising treating mechanically the surface of the plate so as to render it smooth and uniform, impregnating the mechanically treated surface of the plate with a composition containing a filler for the pores of the base plate, and an adhesive, applying a coating to the treated and impregnated surface, allowing the coating to become dry, and mechanically treating the finished matrix so as to render it smooth and uniform.

3. As a new article of manufacture, a matrix for printing purposes, comprising a base of fibrous material, impregnated with a mixture of an adhesive, a water-repellent material and a metal powder and coated with a mixture of casein, wax, metal bronze and mineral powder in the proportion of 3.5:1:5:40.

1,974,899. PRESS FOR MOLDING STEREOTYPE MATRICES. Karl Schaeflein, Bern, Switzerland. Application January 21, 1933, Serial No. 652,847. In Germany February 11, 1932. 3 Claims. (Cl. 101 — 12.)

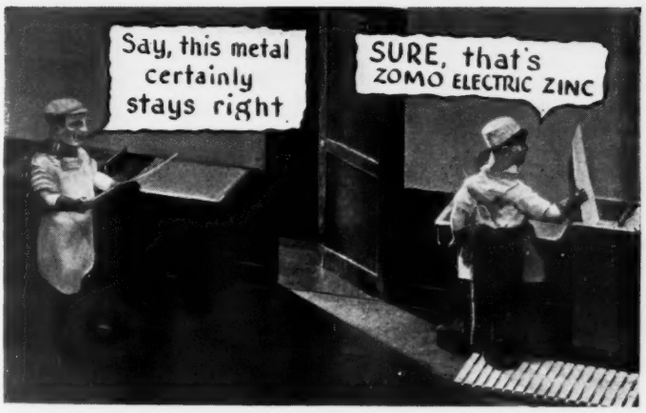
1. A press for molding stereotype matrices, having in combination, a frame, a press head, means for guiding the press head in the frame, a connecting rod pivoted to the head, an oscillating lever having oppositely extending arms, a pivotal connection between the lever and the connecting rod, means mounting one arm of the lever in the frame so that the lever can be swung about a fulcrum located above the pivotal connection, and means engaging the other arm of the lever for oscillating the lever.

1,975,181. MEANS FOR PREPARING FORMS FOR MULTICOLOR PRINTING. John F. Springstead, Rye, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Application May 31, 1930, Serial No. 458,662. 4 Claims. (Cl. 33 — 184.5.)

1. In a device for preparing a plurality of multi-color printing forms, each form consisting of a backing and a plurality of transparencies, the corresponding transparencies for each form having register marks correspondingly placed thereon, a frame having apertures therein and adapted to be placed successively over the forms and having ruling edges formed adjacent the apertures provided in the frame, the apertures being adapted to receive a marker, the edges being adapted to guide the marker for drawing register marks in the margins of the forms, and a sheet of relatively thin transparent material secured to the frame and on which register marks appearing on the transparencies of one of the forms may be traced.

1,957,867. PRINTING PLATE AND PROCESS OF PREPARING SAME. William Saunders, Baldwin, N. Y. Application September 19, 1933, Serial No. 690,070. 1 Claim. (Cl. 101 — 401.3.)

Continued on page 122



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. . Conference

(Continued from page 44)

The most popular topic was multi-color printing. G. A. Fries of the New York Daily *News* in discussing color-gravure probable touched upon a phase of the art attracting great interest and to which we may look for the most immediate and marked improvements. The latest presses are now designed for 25,000 impressions per hour. Mr. Fries expressed the opinion that presses would be run at this speed shortly, as soon as inks and the drying process are made comparable.

Mr. Groesbeck, Jr., in showing the relation between color printing and color photography, touched upon the subject of color reproduction upon the printed page, a field of development and research holding great interest and one where advancements lie within the near future.

ORGANIZATION OF THE PRINTING RESEARCH INSTITUTE

The organization meeting of the American Institute for Printing Research was held during the afternoon session at the Franklin Institute. John Clyde Oswald, Chairman of the Printing Industries Division, A. S. M. E., by way of introduction, gave a brief outline of the history and research accomplishments in the United States today.

Reference Number Copies for Sale

Those wishing one or more copies of the 1935 Printing and Equipment Supplies Reference Number of *Printing* EQUIPMENT *Engineer* can obtain them by sending 35c for each copy to cover costs and postal charges.

Edward P. Hulse, Secretary of the Printing Industries Division, followed with a discussion, "What England, Germany, Japan and France Have Accomplished Through Instituted Research and Contributary Cooperation by the Technical Experts in the Printing Industry in Those Lands."

Then followed an address, "Organizing the Institute," by Dr. Arthur C. Jewett, former Director, College of Industries, Carnegie Institute of Technology,now connected with the Regional Labor Board, also Chairman of Research and Survey Committee, Printing Industries Division, A. S. M. E.

These gentlemen could not have made it more plain that everything is to be gained in the printing industry as in any other industry by cooperation and the free interchange of ideas and knowledge of individual accomplishments among the technical experts.

The thought is to accomplish the same thing for the good of the printing industry as a whole as has been accomplished by the steel, power or transportation industries through their research bureaus. Printing is just as an important part of our industrial life.

REASONS FOR INSTITUTE

It must be borne in mind that we are entering upon a period of aggravated nationalism whether we approve of it or not. That country will survive best that makes the greatest individual progress in industry, science and invention.

Thus survival will be no longer sustained by force of arms entirely. This can be done only by burying the age-old bug-a-boo of "trade secrets" and by every firm contributing its bit to the expert knowledge of the nation, pooled through the proper and authoritative sources. This is in no wise "regimentation" but self-preservation for the time being. Later when the seeming need for nationalism passes, real

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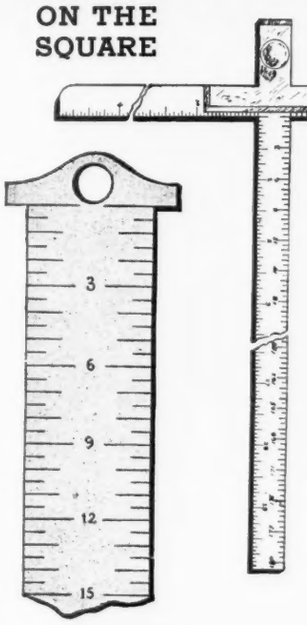

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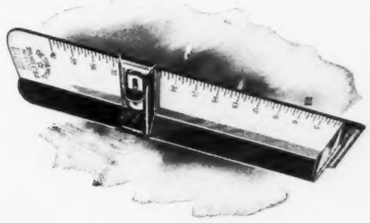

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world progress by this same means can be attained for the benefit of all mankind.

FUNCTIONS OF INSTITUTE

The functions of the Institute are to collect, correlate and distribute research information pertaining to the Graphic Arts and to sponsor new and needful research.

During the two-day sessions subscriptions to membership (fee $2.00 for the year 1935 if already a member of the A. S. M. E., Craftsmen Club and Philadelphia Typothetae) in the Printing Research Institute were solicited and many new members were signed. This fee includes eligibility to receive all reports and publications for the year.

P. T. Wetter, assistant secretary, Printing Industries Division, A. S. M. E., is in charge of Printing Research Institute affairs. He may be addressed at the society headquarters, 29 W 39th St., New York, N. Y. Mr. Wetter is in charge of membership and will attend to publication work. Arthur C. Jewett is Director of Research.

The organization committee, of which V. Winfield Challenger was chairman, made the following recommendations:

That the name shall be the "Graphic Arts Research Bureau."

That the objects of the Bureau shall be to act as a clearing house for graphic arts research and the collection, correlation, and distribution of research information pertaining to the industry, and the sponsorship of research work.

That the membership shall be made up of those who registered at the conference as charter members and that the question of association and company membership shall be left for development by the executive committee. (Note: Charter membership, on the payment of the $2 registration fee, shall be kept open until December 31, 1934). The committee shall endeavor to bring in as affiliated organizations all of the organizations and associations connected with the graphic arts.

That an executive committee, made up of a chairman, a vice-chairman, and a secretary-treasurer, and twelve additional members, be appointed to serve for one year. The committee recommends the following: Chairman, Arthur C. Jewett, Pittsburgh; vice-chairman, Lewis W. Trayser, Philadelphia; secretary-treasurer, V. Winfield Challenger, Philadelphia; and Charles Clarkson, Edward Epstean, Harry Gage, A. E. Giegengack, William Clement Glass, Edward Pierce Hulse, Thomas R. Jones, William R. Maull, John Clyde Oswald, John W. Park, Burt D. Stevens, and J. Homer Winkler.

That the executive committee prepare and present for adoption a constitution, that they perfect organization plans, and that they be empowered to function during the coming year in any research work that they may deem advisable and in the further development of the Bureau.

Upon being put before the delegates present, the foregoing committee report was unanimously adopted. Two pledges were immediately made of funds for the organization work totaling $1200.

The meeting closed with a visit to the Graphic Arts Division of the Franklin Institute. Here on display were notably a reproduction of Franklin's printing shop, printers' tools used by Benjamin Franklin; books printed by Franklin and other early Philadelphia printers; two historic printing presses, one showing the first application of inking rollers on the only original Isaac Adams press which was made about 1835, the other, "Euphrata," used as early as 1745; a modern printing shop; typesetting machines; molds and matrices for casting type by hand; photoengraving, electrotyping, copper, steel and wood engraving; lithography; etching; printing presses from the hand press of Franklin to the modern four-color magazine press; reproduction of Johannes Gutenberg's method of type-founding; a collection of Maxfield Parrish paintings; drawings, sketches and examples of the finest printed work in the Graphic Arts; paper-making by hand as well as by a scale model in miniature of a Fourdrinier paper machine in actual operation (capacity four pounds per hour). This is said to be the only complete model in existence and was made by Rice, Barton & Fales, Inc., Worcester, Mass.

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Folders — Composing Room Stones
Patent Base and Hooks

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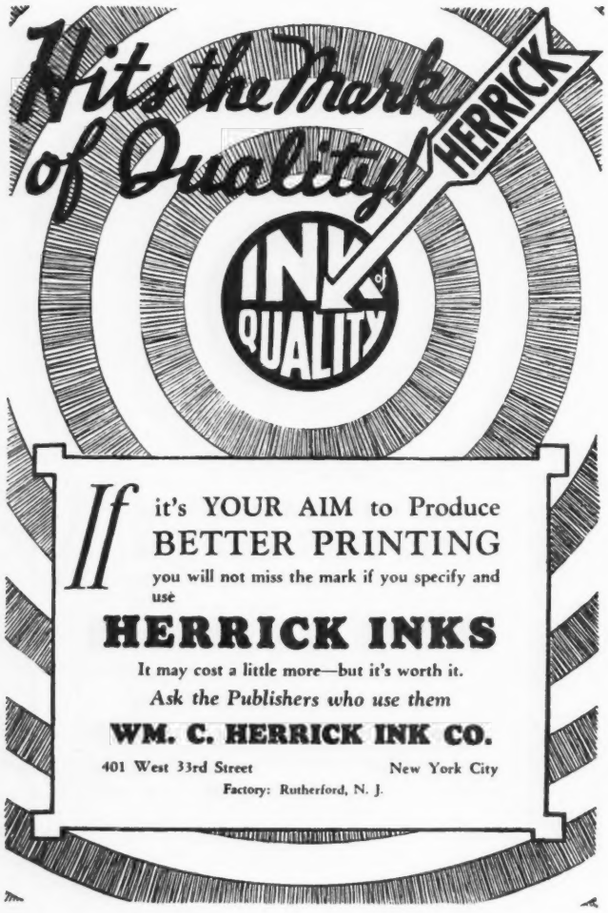
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. . Patents

(Continued from page 119)

The herein disclosed method of incorporating the make-ready in an electrotype or similar printing plate and which comprises taking a proof from the printing face of the plate on overlay paper, reversing the proof and registering the same in reversed relation on the back of the plate with the corresponding printing areas on the face of the plate, temporarily securing the overlay paper proof in the reversed registered relation on the back of the plate, locating the plate with the attached reversed registered overlay paper proof on the back of the same in a press with a layer of lead-like yieldable material over the face of the plate and backed by a cushion in the nature of newsprint paper or the like, applying the pressure of the press in such relation to raise the printing areas on the face of the plate in correspondence with the registered overlay proof on the back of the plate, the raised portions sinking to a corresponding extent into the lead-like face covering layer of material, stripping the overlay proof paper from the back of the raised plate and then shaving the impressed back of the raised plate to restore it to the original or intended thickness for use on a printing press.

1,976,540. STEREOTYPING APPARATUS. Ernst Brockel, Augsburg, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg A. G., Augsburg, Germany, a corporation of Germany. Application March 2, 1933, Serial No. 659,284. In Germany March 3, 1932. 10 Claims. (Cl. 22—2.)

1. In a device for casting stereotype plates, in combination a melting pot and a mold having a common fulcrum, a duct between the melting pot and the mold, means for heating the duct, means for heating the melting pot, and means for rocking the melting pot and the mold together from the inoperative to the casting position.

1,976,640. METHOD OF PREPARING ORIGINAL ENGRAVING PLATES FOR PRINTING ON ROTARY PRESSES. George Shirley Upshaw, San Diego, Calif. Application October 27, 1930. Serial No. 491,422. 7 Claims. (Cl. 101—375.)

1. A method of preparing original engraved plates for rotary printing presses, consisting in rolling a plate from edge to edge to form an arc, then placing the plate upon a correspondingly curved base, then clamping the same thereon and then interlocking the base and plate together by their straight sides.

Presses, Feeders, Folders:

1,973,749. SHEET FEEDING APPARATUS. Joseph Conn Dawson, London, England, assignor, by mesne assignments, to The Cleveland Folding Machine Company, Mentor Township, Ohio, a corporation of Ohio. Application March 21, 1930, Serial No. 437,774. In Great Britain April 6, 1929. 14 Claims. (Cl. 271—52.)

1. On a feed table, means for imparting feeding movement to the sheets, a side guide having sheet guiding and retaining surfaces on both sides, a pair of spaced rails mounted at their ends upon the table transversely to the direction of movement of the sheets thereupon, and means for adjustably supporting the guide upon the rails, whereby the guide may be moved transversely of the table into various positions of adjustment.

1,974,126. WEB ROLL CONTROLLING MECHANISM FOR PRINTING MACHINES. James D. Spillane, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Application July 16, 1931, Serial No. 551,082. 8 Claims. (Cl. 242—75.)

2. In a device for controlling the rotation of an unwinding roll, a first braking device having a braking member rotatable with the roll and adapted to resist rotation of the roll under normal operating conditions, a second braking device adapted to apply greater resistance to the rotation of the roll when it is to be stopped quickly, and means operated by rotation of the roll for regulating the action of both braking devices.

1,974,149. SHEET-FOLDING MACHINE. Peter J. Christman, Green Bay, Wis., assignor to Paper Converting Machine Co., Inc., Green Bay, Wis. Application June 22, 1932, Serial No. 618,601. 2 Claims. (Cl. 270—69.)

1. A rotary sheet folder comprising a carrier cylinder for receiving a web of paper, means for severing the web into sheets, a suction roll engaging the sheet adjacent one of its end edges for folding and removing the same from the cylinder roll, a second suction roll cooperating with the first suction roll to again fold the sheet adjacent its opposite end and remove the same from the first suction roll, a third suction roll cooperating with the second suction roll to again fold the sheet intermediate the previous folds and remove the same from the second suction roll, and means for removing the sheet from the third suction roll.

1,974,241. SHEET DELIVERY MECHANISM FOR PRINTING PRESSES. Albert Hewitt, London, England. Application January 13, 1933, Serial No. 651,511. In Great Britain July 6, 1931. 15 Claims. (Cl. 271—84.)

1. Sheet delivery mechanism for printing presses, comprising a series of superposed and spaced platforms of rigid supporting surfaces the alternate members of which form distinct sets, means for supporting the platforms or rigid supporting surfaces of each set for reciprocating movement in their own planes, and driving means embodying sets of devices successively and alternately acting to effect the reciprocating movement of the supporting surfaces of each set alternately so that while the supporting surfaces of one set are being reciprocated the supporting surfaces of another set are maintained in a state of rest and vice versa.

1,974,469. ATTACHMENT FOR PRINTING PRESSES. Alexander Roberts, Brooklyn N. Y. Application March 1, 1933, Serial No. 659,065. 5 Claims. (Cl. 271—61.)

1. In a printing press including means for producing impressions, conveying means for moving the sheets to be printed into impression receiving relation to the impression producing means, and feeding means for transferring the sheets to the conveying means, that improvement which comprises an attachment adapted to provide a predetermined constant and invariable printing position for the sheets, the attachment consisting of a grooved guide member, a slide adjustable relatively to the grooved guide member to different positions therein, a pair of spaced stops on the slide arranged to independently cooperate with sheets of different dimensions, set screws for fixing the slide in the grooved guide member, and lock nuts for locking the set screws in operative positions.

1,974,544. DOUBLE INKING DEVICE FOR PRINTING PRESSES. William Charles Rowell, Brooklyn, N. Y. Application June 10, 1932, Serial No. 616,419. 4 Claims. (Cl. 271—56.)

1. In a printing press having an inking mechanism, an impression cylinder, a suction sheet feeding device and suction means controlled by the sheets for controlling the operation of the impression cylinder, of means for releasing the suction of the sheet feeding device periodically during certain cycles of the press, and means operated synchronously from the printing press for operating the latter means to periodically arrest the feeding of sheets and thereby tripping the operation of the cylinder to cause multiple operations of the inking device between successive sheet feeding operations.

1,974,601. FLAT BED TRAVELING CYLINDER WEB PRINTING PRESS. Edmund W. Dean, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a corporation of Michigan. Application July 13, 1932, Serial No. 622,340. 4 Claims. (Cl. 101—190.)

1. In a flat bed traveling cylinder printing press having ink distributing rollers, a ductor traveling with the cylinder and a stationary ink fountain; a color fountain arranged parallel with and above the ink fountain; and means for adjusting the ductor so that it will feed ink from either fountain while remaining in contact with one of the ink distributing rollers.

1,974,987. INKING MECHANISM. Charles W. Ginsberg, Brooklyn, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Application December 26, 1931. Serial No. 583,311. 10 Claims. (Cl. 101—348.)

1. In mechanism including a frame adapted to rotatably support an inking roller and form and ink distributing cylinders, an assembly comprising an ink roller supporting bearing secured to means adjustably fastened to the frame, and coacting resilient and non-resilient

means connected to the assembly and to the frame for finely adjusting the inking roller relatively to the form and distributing cylinders so that an effective non-chattering contact of the rollers and cylinders during subsequent operation may be obtained.

1,975,348. METHOD AND APPARATUS FOR MAKING HIGH SPEED PASTERS. Allan J. Cline, Chicago, Ill. Application August 24, 1931. Serial No. 559,054. 11 Claims. (Cl. 242 — 58.)

1. The method of joining the webs of successive rolls of paper supplying a printing press, which consists in bringing a new roll up to desired speed, and applying adhesive to the running web from an expiring roll with the web in engagement with the new roll, the application of the adhesive being so timed with reference to the rotation of the new roll as to cause the adhesive-coated portion of the web to engage and adhere to the end of the web of the new roll, thereby changing the feed to the new roll without stopping the press.

1,975,350. WEB OR SHEET CUTTING MECHANISM FOR PRINTING MACHINES. Harry Davis, St. Albans, N. Y., assignor to Irving Trust Company, temporary trustee for R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application April 8, 1933, Serial No. 665,096. 11 Claims. (Cl. 164 — 66.)

1. A knife box comprising a plurality of cheek blocks, means for securing the cheek blocks in operative relation, a knife arranged between the cheek blocks, and leaf springs for resiliently maintaining the cheek blocks in operative position, the leaf springs being adapted to elongate in a plane normal to the plane of movement of the cheek blocks.

1,975,654. PRINTING MACHINERY. Donald M. Duncan, Parma, Ohio, assignor to The Cleveland Shopping News Company, Cleveland, Ohio, a corporation of Ohio. Application June 20, 1933, Serial No. 676,673. 4 Claims. (Cl. 271 — 76.)

1. Delivery means for receiving sheets from printing and cutting machines, which comprises an inclined conveyor receiving the cut sheets, a further conveyor, a frame supporting the conveyor, overhead guide-rolls above the last-mentioned conveyor, and rack and pinion means in the last-mentioned frame for adjusting the guide-rolls.

1,975,764. SHEET DELIVERY MECHANISM. Joseph R. Blaine, Oak Park, Ill., assignor to The Miehle Printing Press & Manufacturing Co., Chicago, Ill., a corporation of Illinois Application April 19, 1929, Serial No. 356,355. 3 Claims. (Cl. 271 — 79.)

1. In a sheet delivery mechanism for handling sheet material which is to have its direction of movement deflected, the arrangement of stripper fingers lying in the path of movement of the sheets for deflecting the latter and consisting of resilient members adapted to yield readily for the purpose of protecting the operator against injury.

1,975,891. PRINTING PRESS. Lucius Emery Aborn, River Forest, Ill. Application November 15, 1933, Serial No. 698,212. 8 Claims. (Cl. 101 — 232.)

1. In a printing press comprising a supporting structure and a cylinder operatively mounted on the supporting structure, an impression roller cooperable with the cylinder, means for swingingly mounting the impression roller on the supporting structure, and a sheet feeding mechanism swingiugly mounted on the impression roller mounting means.

1,975,981. UNIT PINION SUPPORT FOR MULTICOLOR PRINTING MACHINES. Herman A. Smith, Holden, George H. Thomson, Worcester, and Stephen B. Stafford, Oxford, Mass., assignors to Rice, Barton & Fales, Incorporated, Worcester, Mass., a corporation of Massachusetts. Application December 21, 1933, Serial No. 703,438. 5 Claims. (Cl. 101 — 182.)

1. In a multicolor printing machine, the combination of a main supporting frame, a stationary supplementary frame detachably and rigidly mounted thereon, a pinion frame mounted and supported thereon and free to be adjusted about an axis, a series of pinions carried by the pinions frame, and a main gear, with which the pinions mesh, supported by the second named frame and rotatable about the axis, the parts being capable of being assembled as a unit, whereby the entire unit thereon can be attached to the main frame.

1,976,601. SHEET REGISTERING MECHANISM. Frank L. Cross, Port Washington, N. Y., assignor to Cross Paper Feeder Company, Boston, Mass., a corporation of Massachusetts. Application February 13, 1933, Serial No. 656,518. 15 Claims. (Cl. 271 — 59.)

1. The combination of a sheet moving instrument, resilient means normally urging the instrument to act, upon a sheet to move it, means normally restraining the instrument, means releasing the restraining means, and means effecting engagement of the instrument with a sheet.

1,977,566. SLITTING MECHANISM FOR PRINTING MACHINES. William K. Eckhard, Dunellen, N. J., assignor to Irving Trust Company, temporary trustee of R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application March 15, 1933, Serial No. 660,813. 14 Claims. (Cl. 101 — 216.)

1. In a sheet fed printing machine having a conveyor delivery mechanism, a slitting device including a slitter and an abutment therefor arranged to operate on a sheet being carried by the conveyor, and means wholly on one side of the sheet path to support the slitting device.

1,977,944. INKING MECHANISM. Frederick Lamatsch, Grantwood, N. J., and Charles W. Ginsberg, Brooklyn, N. Y., assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Original application August 25, 1930, Serial No. 477,670. Divided and this application January 21, 1932, Serial No. 587,884. 14 Claims. (Cl. 101 — 350.)

1. In a printing machine, a cylindrical inking member secured to a shaft, a swivel member in axial alignment with and arranged to longitudinally move the shaft, the shaft being rotatable relatively to the swivel member, a crank shaft operatably connected by the swivel member, and means to rotate the crank shaft.

1,977,372. METHOD OF PRINTING. Oscar A. Beriau, Quebec, Quebec, Canada, assignor to U. S. B. Process, Limited, Quebec, Quebec, Canada. Application March 3, 1930, Serial No. 432,822. 4 Claims. (Cl. 41 — 42.)

1. The process of treating material, differently colored portions of which are composed of different constituents capable of being etched by different etching actions, which consists in etching constituents of varying color by progressively subjecting the material to different etching actions, which vary in accordance with the composition of the constituents.

1,977,375. PRINTING PRESS ROLLER SOCKET. George V. Chandler, Chicago, Ill Application May 7, 1931, Serial No. 535,617. 2 Claims. (Cl. 101 — 349.)

1. In combination, in a printing press, a printing cylinder, an inking roller, a supporting bracket for the roller, the bracket embodying two members hinged together to form a bearing seat, a bearing for the roller within the seat, a portion of the bearing being reduced to receive the bracket walls, one end of the bearing projecting beyond the bracket to form a hand grip for rotating the bearing in the bracket, the roller shaft being eccentrically mounted in the bearing, and means for clamping the bracket members together to frictionally bind the bearing against rotation in the bracket, the bearing being freely rotatable in the bracket when the clamping effect of the bracket members is released, to permit the roller to be quickly moved laterally away from the cylinder.

1,977,283. CUTTING MECHANISM FOR PRINTING MACHINES. Arvid Lundquist, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Application June 23, 1931, Serial No. 546,241. 9 Claims. (Cl. 164 — 70.)

1. In a folder, the combination of a cutting knife carrier, a cutting knife carried thereby, and a multi-part cutting block having resilient sides which are arranged to move sidewise or circumferentially of the carrier as the knife enters between them, and a vent through which the knife forces paper dust and the like to keep the block clear.

1,976,892. STRAIGHT LINE FEEDING MECHANISM. Wesley P. Shomaker, Richmond, Va. Application August 14, 1931, Serial No. 557,165. 17 Claims. (Cl. 271 — 32.)

1. In envelope feed mechanism the combination with an endless magazine carrier adapted to carry stacks of envelopes therein, a straight line feeder disposed in register with a printing mechanism and in a straight line with one run of the magazine carrier, and means operable

Continued on page 124

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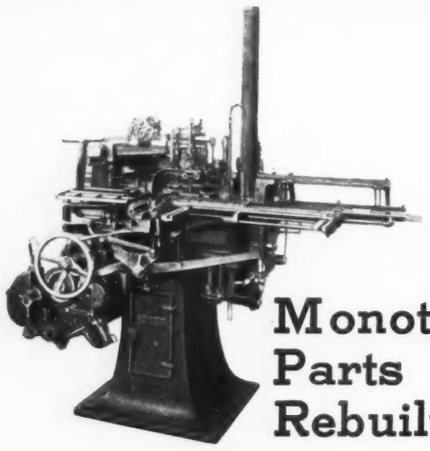

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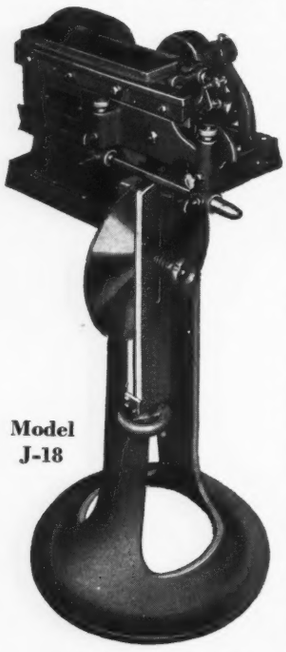

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. . Patents

(Continued from page 123)

between the magazine carrier and the straight line feeder for transferring envelopes directly and consecutively from the magazines to the feeder for supplying the envelopes without angular adjustment to the printing machine.

1,976,893. SHEET FEEDING MECHANISM. Wesley P. Shomaker, Richmond, Va. Application March 28, 1933, Serial No. 663,227. 7 Claims. (Cl. 271 — 29.)

1. Means for feeding envelopes to a printing machine, comprising a straight line feeding mechanism disposed in a straight line with the printing machine, an endless chain of magazines for envelopes, and a rotary extractor mounted on an axis transverse to the line of movement of the magazines and below the plane of the latter for withdrawing the lowermost envelope from each magazine consecutively and depositing it on the feed mechanism without axially turning the envelope.

1,976,853. FOLDING MECHANISM. Arvid Lundquist and James D. Spillane, New York, N. Y., assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, temporary trustee. Application April 4, 1931, Serial No. 527,670. 11 Claims. (Cl. 270 — 77.)

1. In a folder, the combination of a folding cylinder, a plurality of flexible strips carried thereby, the strips being anchored at one end to the cylinder and movable at another end relatively thereto, sliding bars provided with diagonal slots, connections between the bars and strips, and means for operating the bars to flex the strips.

Micellaneous:

1,975,771. PROCESS FOR THE RECOVERY OF PULP FROM PRINTED PAPER. Alex B. Davis and James F. Thompson, Cincinnati, Ohio, and Alfred T. Gardner, Appleton, Wis., assignors to Lewis L. Alsted, Appleton, Wis. No Drawing. Application October 24, 1931, Serial No. 570,968. 5 Claims. (Cl. 92 — 20.)

1. In the art of rendering paper containing ground wood and previously printed upon with an ink capable of being bleached, available for repeated printing and use, the step which consists in subjecting the ink of such paper to the action of a bleaching agent for destroying the color of the ink while maintaining the fibers of the paper substantially white.

1,977,213. PRINTER'S LINE-UP TABLE. Joseph A. Slobey, Lyndhurst, N. J., assignor to Craftsman Line-Up Table Corporation, Waltham, Mass., a corporation of Massachusetts. Application October 5, 1929, Serial No. 397,679. 9 Claims. (Cl. 33 — 80.)

1. A table comprising, in combination, a table top, a carriage mounted for movement across the top of the table, a straight edge carried by the carriage, a handle, worm and gear mechanism on the carriage arranged to be operated by the handle for adjusting the straight edge relatively to the carriage in a direction transversely to itself, and a dial cooperating with the adjusting mechanism to indicate the degree of adjustment.

Decision In Lindbladh Suit

The United States Circuit Court of Appeals for the Second Circuit has recently rendered a decision in a suit brought by The Lindbladh Corporation against The C. E. Sheppard Company for infringement of Lindbladh patents Nos. 1,813,940 and 1,609,648. The Court affirmed the decision of the United States District Court for the Eastern District of New York, which held the patents valid and infringed except as to claims 8 and 10 of patent 1,813,940, which were heidi nvalid.

The record in the case conslsted of two volumes comprising a total of 1,218 printed pages; and the opinion of the District Court, which was affirmed by the Court of Appeals, occupied about 36 pages.

According to the Lindbladh Corporation, the machine involved in the case and held to infringe the Lindbladh patents was a Dual "L" Ruling Machine adapted for striking on both halves manufactured by the W. O. Hickok Manufacturing Company, which, as stated in the District Court's opinion, controlled the defense of the suit in behalf of its customer The C. E. Sheppard Company.

It is claimed that the Court ordered the issuance of an injunction against the defendant enjoining it from making, using or selling ruling machines or apparatus embodying the inventions described and claimed in claims 6, 32, 40, 44, 47 and 81 of Lindbladh Patent No. 1,813,940 and in claims 1, 4, 5 and 6 of Lindbladh Patent No. 1,609,648, or any of them, and from directly or indirectly infringing upon said letters patent or the plaintiff's rights thereunder; and further ordered that the defendant account to the plaintiff for profits and damages resulting from infringement.

The Lindbladh Corporation announces tnat a settlement has been made whereby owners or users of Hickok machines of the type in question which have been sold by the W. O. Hickok Mfg. Company in the past are free to continue to use those machines and are released from damages for past infringement on account of their use. The settlement, however, it is stated by the Lindbladh Corporation, confers no rights for the future manufacture of similar machines.

. . Impression

(Continued from page 92)

the radius of the impression cylinder. This figure will represent the clearance between the face of the plate and the bare impression cylinder when the two gears are properly meshing exactly on pitch line.

On presses using a combination of one-twelfth and one-sixteenth blankets you will find this figure to be approximately 0.125 in. On presses using two one-twelfth blankets, the figure may be around 0.145 in. However, it is advisable that you check this, or have a competent machinist check, keeping in mind the fact that since the final result will be in thousandths, absolute accuracy is essential.

GAUGE FOR RELATIVE CYLINDER POSITIONS

When you are satisfied that you have this figure right, you will need a gauge with which you can keep tab on the relative position of the two cylinders. To the 0.125 in. or 0.145 in. or whatever figure you find to be the difference between

the two points previously described, add the thickness of the plate.

As an example of just how this works out, the writer found that the clearance between the bare impression cylinder and the face of the plate on the plate cylinder of a certain press was 0.1255 in. when the cylinder gears were meshing exactly on pitch line. The plate was 0.4375 in. Therefore, whenever the gears on this particular press are in proper mesh the clearance between the bare cylinders will be 0.563 in.

With this 0.563 in. in mind, the writer went to a local machine shop and secured one piece of cold-rolled steel ⅜ in. by 1 in. by 12 in. and another piece 3/16 in. by 1 in. by 12 in. Inasmuch as cold rolled steel usually is slightly under standard, the two pieces placed together measure exactly 0.557 in. thick. Next, he went to a hardware store and got the following thickness gauges: 0.002, 0.003, 0.004, 0.006, 0.008 and 0.010 in. Each of these is twelve inches long.

By placing the 0.006 in. thickness gauge between the two pieces of cold-rolled steel and checking between the ends of the cylinders with the press plated, he finds that when the gauge, thus made up to 0.563 in. barely goes through the opening between the end of the cylinders, the gears are meshing exactly on pitch line.

TOLERANCE FOR PITCH LINE

When new blankets are started, the pair is of such thickness that when the proper impression is set, the gauge will equal not more than 0.568 in. The cylinders are never allowed to go down to a clearance of less than 0.557 in. which is the thickness of the two pieces of steel. This is 0.005 in. below pitch line. The tolerance above pitch line also is 0.005 in. When the low point is reached, the reel is released, the felt is eased off the pins, the under-blanket is removed and another under-blanket which is from 0.007 in. to 0.010 in. thicker, is slipped under the felt and hooked on. The felt is rehooked on the pins, blankets rereeled, impression reset and we are ready to go again, probably for the balance of the life of the felt.

When carefully handled and stored the under-blankets can be used over and over until worn out.

When impression cylinders are packed in this way, the blankets do not go down nearly so fast because when the action of the two cylinders is nearly synchronized, practically no stretching strain is placed on the blanket. And after all, a good portion of the thickness that is lost in new blankets goes into the elongation thereof. Another thing, if you will pack in this way you can change the blankets on one cylinder, or on one pair of cylinders at any time without running into difficulties. If you think there is any possibility of the teeth in your gears meshing too closely at any point below pitch line, check the clearance on the face and at the bottom of the teeth with an 0.008 in. thickness gauge.

STATIC AND FIRST IMPRESSION PRINTING

The writer holds to the belief that a lot of the poor printing results obtained from first impressions is directly attributable to the effects of static electricity. With cylinders all packed in the manner described, static is almost completely eliminated if the humidity of the room is at least somewhere near normal.

USE OF IMPRESSION GAUGE

There is just one more impression gauge that we use every day or so. It is 1¼ in. long, turned down to 0.421 in. diam. out of a piece of round steel. In the middle is secured a stiff wire handle about 16 in. long. This gauge is used for checking between the blanket and the bare plate cylinder and also comes in handy in setting form rollers as a check between the roller and the plate cylinder.

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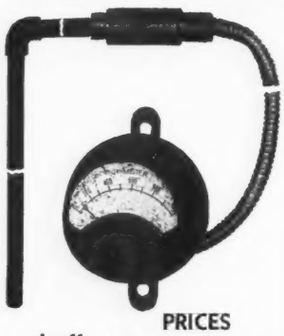

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Bert McCullagh Passes

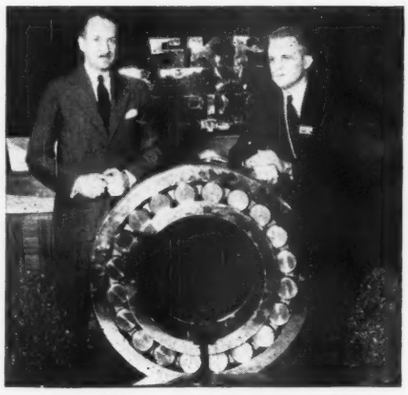
Bert C. McCullagh, identified with the sales department of the Ludlow Typograph Company for about fifteen years, died suddenly of a heart attack at his home in Chicago on October 15, at the age of 59.

Bert McCullagh enjoyed a wide and friendly acquaintance among printers in all parts of the country. He began his typographic career as a printer in Toledo, Ohio. He served in the composing room of a number of metropolitan newspapers and before joining the Ludlow company as a salesman was in charge of the composing room of NEA Service, Inc., at Chicago and later at Cleveland. He was a member of the International Typographical Union for some thirty-five years.

Mr. McCullagh served the Ludlow Typographic Company as sales representative from the company's Chicago office, at times being entrusted with sales and service missions in foreign countries. His last assignment was in the Indiana and Illinois sales territory, with special work in Iowa and Nebraska.

SKF'S Answer

This 1,500-lb. self-aligning roller bearing is the answer of SKF to industry's demand for large, heavy-duty bearings,



say Messrs. R. H. DeMott, sales manager (left) and Robert C. Byler, advertising manager (right).

Timken Awarded First Place

The Timken Roller Bearing Company was awarded first place by the judges for the most effectively conceived and executed industrial advertising campaign of the year in the Tool and Equipment Division of The National Industrial Advertisers Association at the annual convention recently held in Cincinnati.

Klinedinst Elected

At a meeting of the Board of Directors of The Timken Roller Bearing Company on October 30, L. M. Klinedinst was elected to the Board and also promoted to the office of Vice President in Charge of Sales to fill the vacancy created by the recent resignation of Judd W. Spray. Mr. Spray plans to spend the winter in Florida and rest indefinitely before announcing his future plans.

Returns From European Trip

W. J. Sullivan of the Flexideal Dry Mat Company, 21 West Street, New York, N. Y., recently returned from an extensive trip through England, Germany, and Switzerland, where, he states, he made a very careful study of the most advanced methods and processes in the making of dry mats.

Mr. Sullivan's new mill which has been opened in the Metropolitan area is equipped with modern machinery to make the Flex Mat which is announced in an advertisement in this issue of *Printing* EQUIPMENT *Engineer*.

. . Operating Rolls

(Continued on page 111)

The nose of the reel spindles is bored out to receive the ends of the shaft on which the rolls are mounted. Each roll is centered on the shaft by the regular tapered nose on the reel spindle and is driven by a feathered key mounted in the adjacent chuck. The assembly is then locked in the reel in the usual way. Thus each roll is free to rotate independently.

Except for the fact that a common shaft supports the two rolls, each web is complete in itself. At one end of the reel is the usual "V" face tension block that controls the tension on the web adjacent to it. Tension on the other web is maintained by a straight-face tension block on the other side of the reel. The webs are carried up through the press over separate sets of rollers each equipped with a Jones Tension Floating Roller which is connected to the tension block that governs the tension on that web. By the use of separate rollers it is possible to apply individual tension to each web and thereby accommodate differences in web strength, winding and size of roll used. Each web is equipped with break detectors so that not only in running but also in the event of a break,

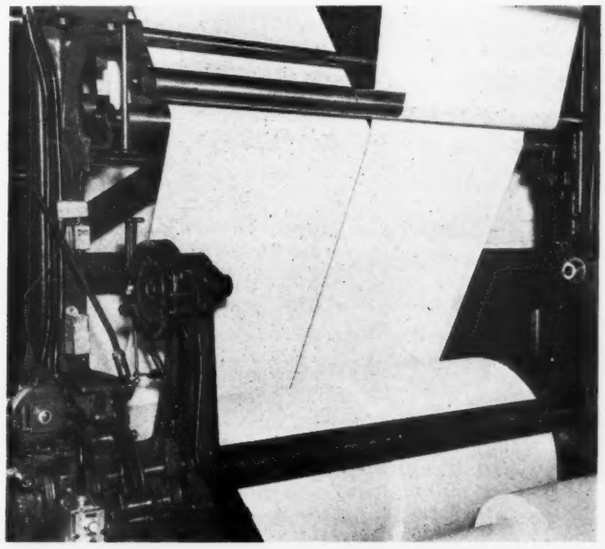


Fig. 1.—View of two rolls on one spindle as installed in the reel in pressroom of the Washington Evening Star. *There may be noted the separation of the webs and the floating rollers which govern the tension on each web. The edge distance between the webs is maintained throughout the press.*

Continued on page 129

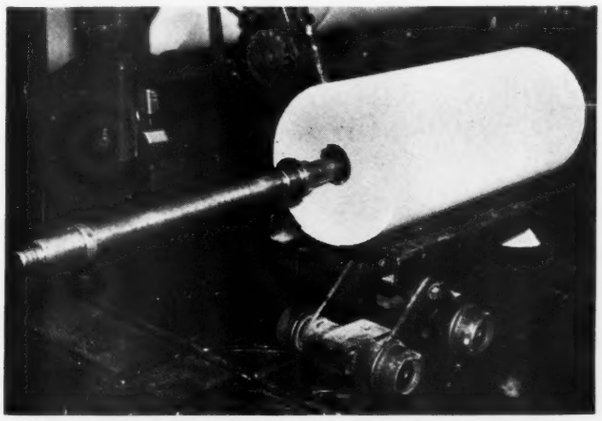


Fig. 2.—View of an open assembly on the paper roll spindle in pressroom of the Washington Evening Star. *Special or extra spindles are not required as the center chuck and the centering collars are slipped on the shaft with just enough clearance to permit ease of installation.*

• Sharp Saws Cut Production Costs

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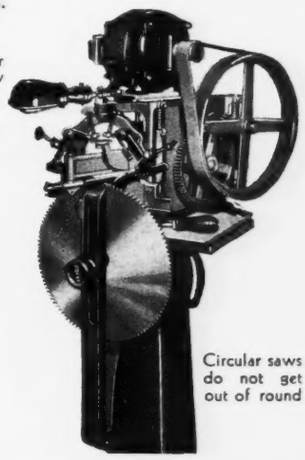

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13

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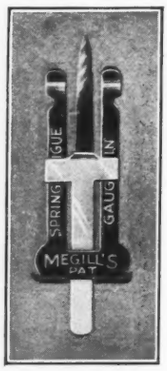

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SAW • TRIM • PLANE • ROUT

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WORKHOLDING CLAMP

Equip your old saw with this "Bulldog" workholding clamp. Operated by a single motion with one hand. Faster, safer, holds work more rigid. All Richards saws are equipped with the "Bulldog" clamp — but you too may obtain this patented feature for attachment to your old saws. Also improved gauges for Miller saws.

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each web is independent, and only the broken web need be rethreaded. In this way our standard half-width rolls may be used, resulting in efficient handling methods and a flexible and easy method of preparing for the final edition. In assembling, the pink and white rolls are usually about the same size but this is not essential. However, rolls of approximately the same diameter do simplify slightly ease of installation in the reels.

The only difficulties experienced have been minor ones and they seldom occur. Uneven winding combined with sagging of the spindle shaft, due to the weight of the rolls, at times results in the distance between the ends of the rolls being too great at the bottom and too close at the top. Marginal trouble would then be experienced, but to offset this possibility three slim tapered soft wood wedges are driven between the rolls on the tight side. By employing the wedges, a slight adjustment of the cores on the double-end chuck follows, thereby tending to equalize the distances at the top and bottom of the rolls. Practically no damage to the newsprint results and when the wedges are removed the rolls retain their adjusted position. The only other difficulty encountered has been where the end of the core, supported at the center of the spindle shaft, extends beyond the end of the roll. In order to retain the desired marginal distances the core must be forced back to line with the end of the roll. Thus either of these difficulties can be quickly and easily adjusted to give satisfactory results. With the above method of operating two rolls from one spindle shaft it is possible to use only one of the spider arms, leaving the other two available for installation of additional assemblies while the press is in operation. Less space is required at the reels and a change of rolls can be made more quickly.

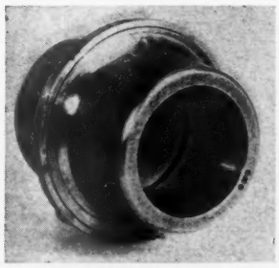

Fig. 3.—View of double-end ball thrust center chuck which is used to separate two rolls where mounted in one reel in pressroom of the Washington Evening Star.

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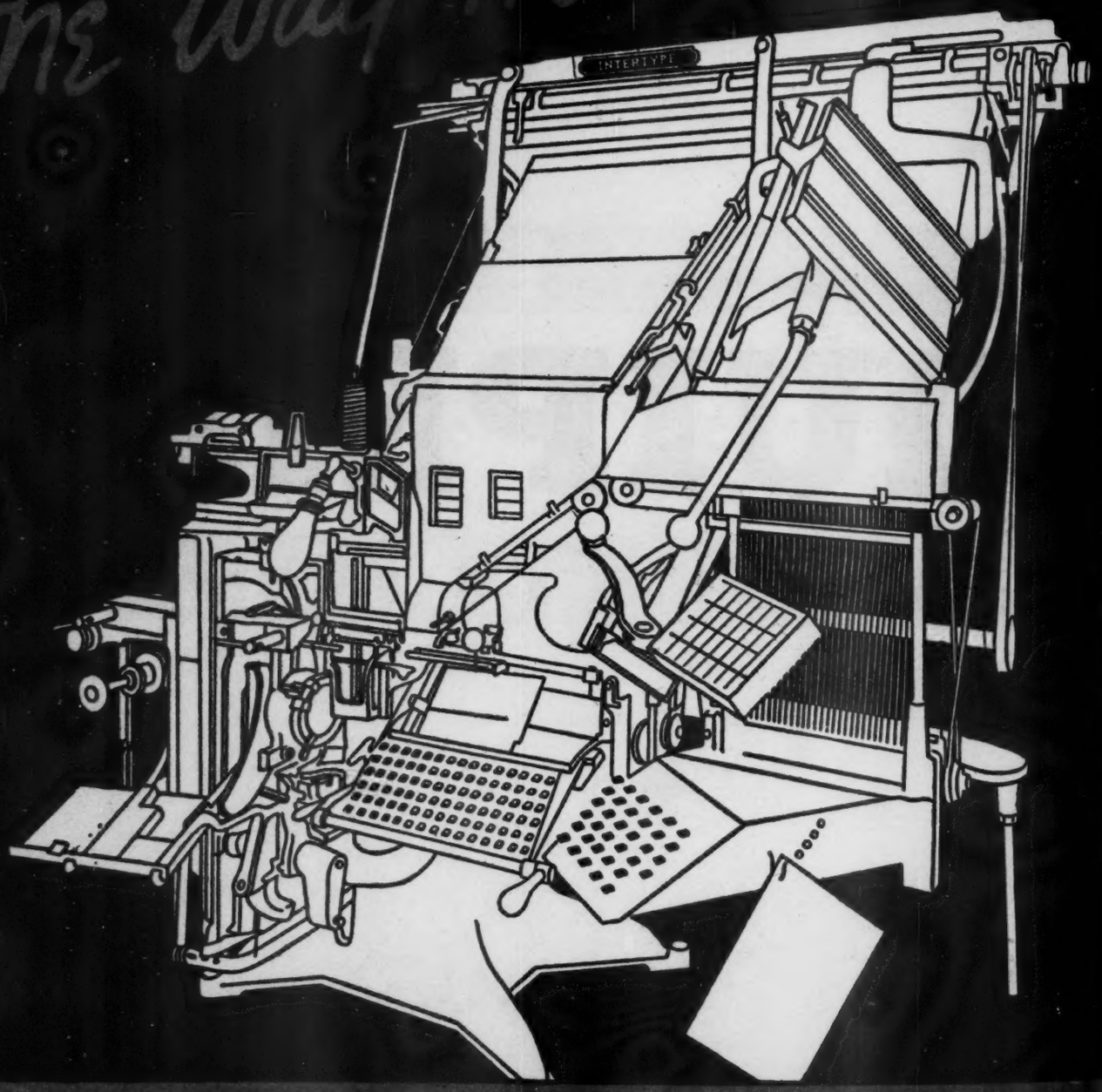

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